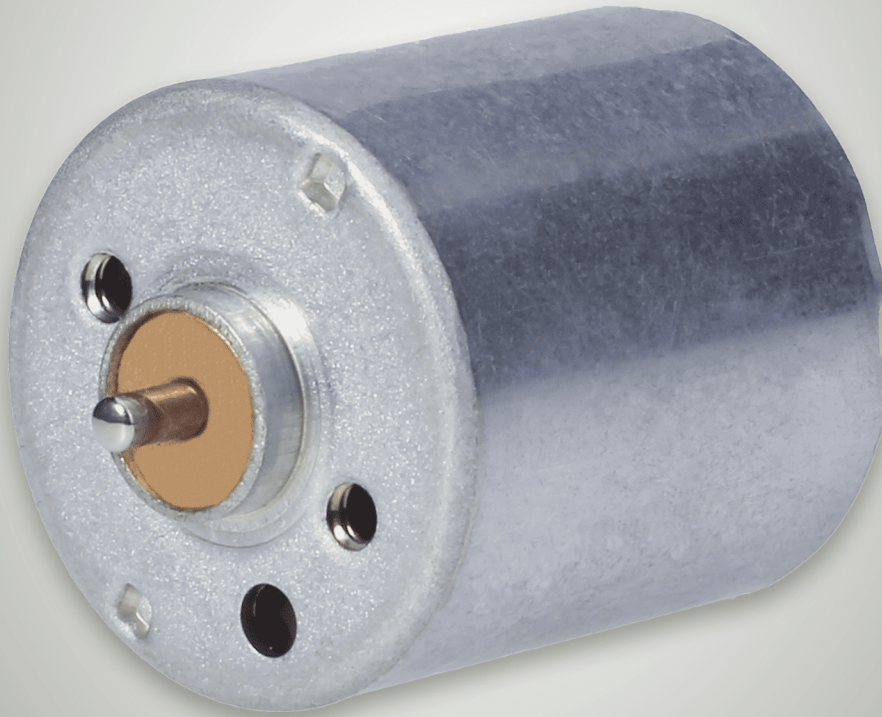




Intelligence in motion



Simplicity. Resilience. Predictability.

Brushed DC Motors

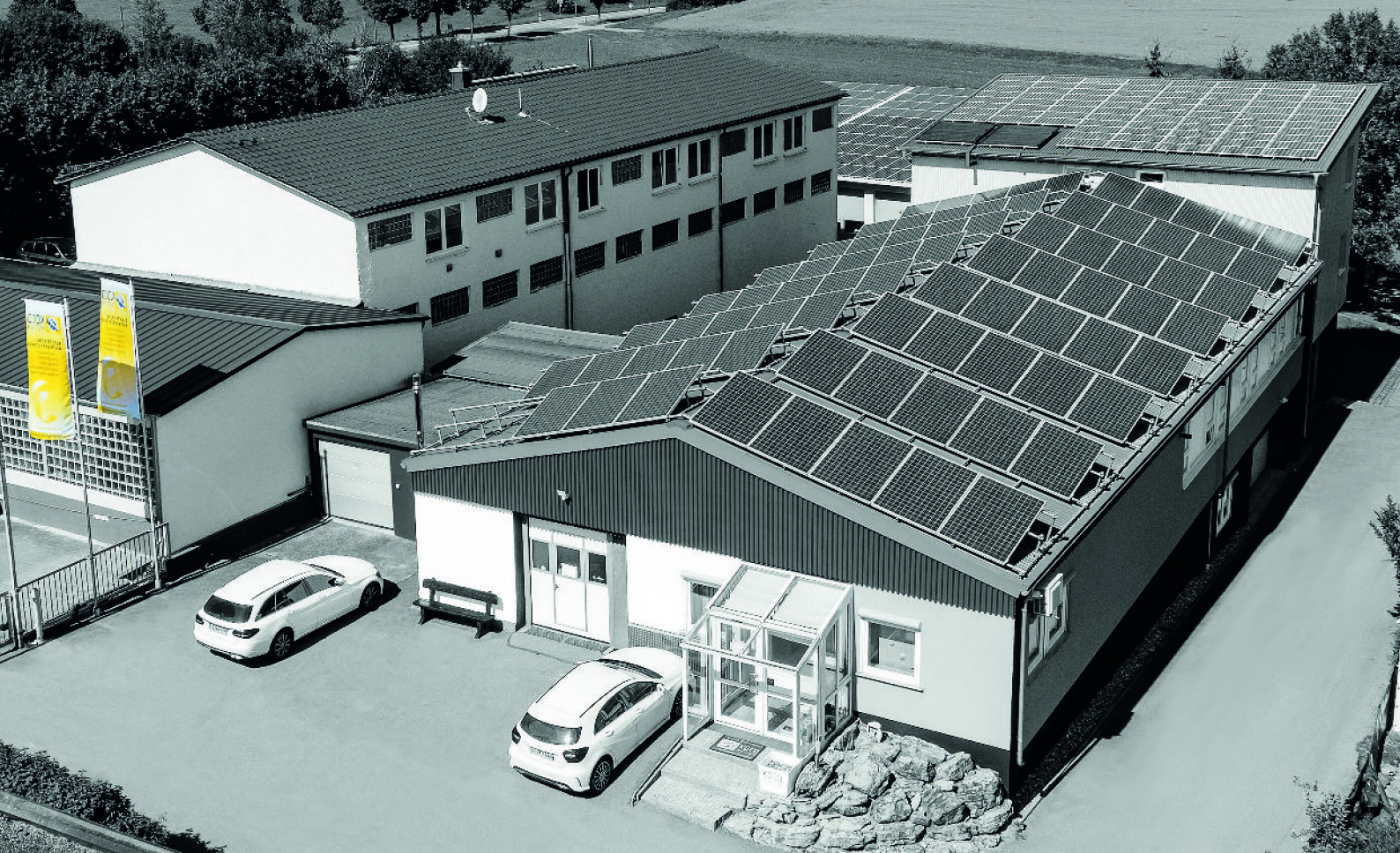


Brushed DC Motors

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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.

6mm Micro DC Coreless Motors

0615N5M

0615N5M 6mm Micro DC Coreless Motors are designed to meet the demanding requirements of modern precision applications. Featuring precious metal commutation for enhanced conductivity and minimal electrical noise, these motors are ideal for systems where compact size, efficiency, and reliable performance are critical.



- **Technical Features:** 6mm micro DC coreless construction for lightweight and compact integration High-efficiency precious metal commutation Customizable options such as shaft length, lead wire length, special coil configurations, and gear head compatibility
- 6mm micro DC coreless construction for lightweight and compact integration
- High-efficiency precious metal commutation
- Customizable options such as shaft length, lead wire length, special coil configurations, and gear head compatibility
- **Key Applications:** Precision drives in medical equipment and diagnostic devices Healthcare products requiring reliable miniature actuation Robotics for articulated mechanisms and micro-actuators Industrial automation for compact control and positioning systems
- Precision drives in medical equipment and diagnostic devices
- Healthcare products requiring reliable miniature actuation
- Robotics for articulated mechanisms and micro-actuators
- Industrial automation for compact control and positioning systems
- **Benefits:** Ultra-compact design maximizes space efficiency in integration-limited environments Flexible configuration options to precisely match application requirements Low power consumption with high responsiveness, ideal for portable and battery-powered equipment Reliable, smooth operation even in demanding duty cycles
- Ultra-compact design maximizes space efficiency in integration-limited environments
- Flexible configuration options to precisely match application requirements
- Low power consumption with high responsiveness, ideal for portable and battery-powered equipment
- Reliable, smooth operation even in demanding duty cycles

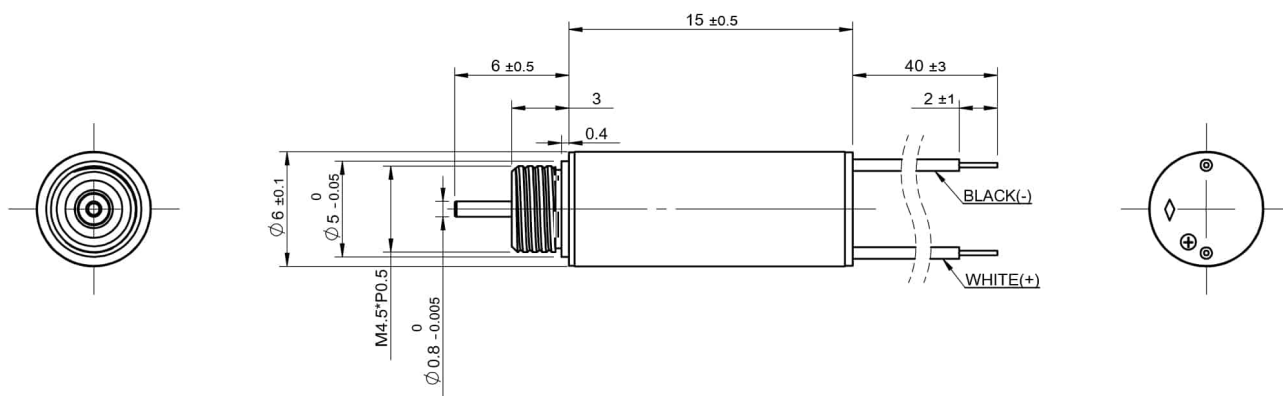
With unmatched versatility and precision, the 0615N5M series is the optimal choice for engineers and OEMs seeking high-performance micro motors.


<https://www.kocomotion.de/produkt/0615n5m/>

Characteristics	Unit	0615N5M01-122-3.0	0615N5M02-185-3.0	0615N5M03-295-6.0
Rated voltage	V	3.0	3.0	6.0
Max. output power	W	0.11	0.09	0.83
Max. efficiency	%	56	44	67
Back-EMF constant	mV/rpm	0.2	0.1	0.2
Torque constant	mNm/A	2.2	1.4	1.9
Speed/torque gradient	rpm/mNm	37000	94600	27600
Rotor inertia	gcm ²	0.015	0.015	0.015
Weight	g	2.5	2.5	2.5
Thermal resistance housing-ambient	K/W	75.8	75.8	75.8
Thermal resistance winding-housing	K/W	42.1	42.1	42.1
Thermal time constant motor	s	78	78	78
Terminal resistance	Ω	19.0	18.5	10.1
Thermal time constant winding	s	15	15	15
Operating temperature	°C	-20~+85	-20~+85	-20~+85
Thermal class of winding	°C	130	130	130
Axial play	mm	≤0.3	≤0.3	≤0.3
Radial play	mm	0.012	0.012	0.012
Axial load dynamic	N	0.15	0.15	0.15
Axial load static	N	10	10	10
Radial load at 3 mm from mounting face	N	0.7	0.7	0.7
No. of pole pairs		1	1	1
Bearings		2 sleeve bearings	2 sleeve bearings	2 sleeve bearings
No-load speed	rpm	12200	18500	29500
Commutator		metal 5 segments	metal 5 segments	metal 5 segments
Protection class	IP	40	40	40
Outer diameter	mm	6 +/- 0.1	6 +/- 0.1	6 +/- 0.1
Motor length	mm	15 +/- 0.5	15 +/- 0.5	15 +/- 0.5
No-load current	mA	10	18	20
Stall torque	mNm	0.33	0.2	1.07
Stall current	mA	160	160	590
Nominal torque	mNm	0.1	0.05	0.3
Nominal speed	rpm	8500	13770	21230

Characteristics	Unit	0615N5M01-122-3.0	0615N5M02-185-3.0	0615N5M03-295-6.0
Nominal current	mA	60	50	180

Drawings



8mm Coreless Micro DC Motors

0816N5M

0816N5M Micro DC Coreless Motor Series delivers high-precision motion control in a compact 8mm form factor. Featuring precious metal commutation, these motors offer exceptionally low electrical noise, superior efficiency, and smooth operation, making them well-suited for sensitive and mission-critical applications.

- **Key Features:** 8mm diameter ultra-compact coreless design
Precious metal commutation for increased durability and low noise
High efficiency and rapid dynamic response
Customizable shaft length and lead wires
Compatible with special coils and gear heads for tailored solutions
- 8mm diameter ultra-compact coreless design
- Precious metal commutation for increased durability and low noise
- High efficiency and rapid dynamic response
- Customizable shaft length and lead wires
- Compatible with special coils and gear heads for tailored solutions
- **Typical Applications:** Precision drives in medical equipment and diagnostic devices
Healthcare and wellness products
Miniature robotics and automation systems
Industrial automation where space and weight are critical
- Precision drives in medical equipment and diagnostic devices
- Healthcare and wellness products
- Miniature robotics and automation systems
- Industrial automation where space and weight are critical
- **Available Options:** Lead wires length
Shaft length
Special winding/coils
Gear head integration
- Lead wires length
- Shaft length
- Special winding/coils
- Gear head integration

Engineers and designers can rely on the 0816N5M series for consistent, reliable performance in applications demanding space-saving, lightweight, and precision drive solutions.



<https://www.kocomotion.de/produkt/0816n5m/>

Characteristics	Unit	0816N5M02-137-4.2	0816N5M11-148-6.0	0816N5M01-155-8.0
Rated voltage	V	4.2	6.0	8.0
Max. output power	W	0.3	0.34	0.24
Max. efficiency	%	61	69	62
Back-EMF constant	mV/rpm	0.3	0.4	0.5
Torque constant	mNm/A	2.8	3.8	4.7
Speed/torque gradient	rpm/mNm	16700	16900	26600
Rotor inertia	g·cm ²	0.04	0.04	0.04
Weight	g	3.6	3.6	3.6
Thermal resistance housing-ambient	K/W	66.2	66.2	66.2
Thermal resistance winding-housing	K/W	27.3	27.3	27.3
Thermal time constant motor	s	104	104	104
Terminal resistance	Ω	13.5	25.3	60
Thermal time constant winding	s	21	21	21
Operating temperature	°C	-20~+85	-20~+85	-20~+85
Thermal class of winding	°C	130	130	130
Axial play	mm	≤0.3	≤0.3	≤0.3
Radial play	mm	0.012	0.012	0.012
Axial load dynamic	N	0.15	0.15	0.15
Axial load static	N	10	10	10
Radial load at 3 mm from mounting face	N	0.7	0.7	0.7
No. of pole pairs		1	1	1
Bearings		2 sleeve bearings	2 sleeve bearings	2 sleeve bearings
No-load speed	rpm	13700	14800	15500
Commutator		metal 5 segments	metal 5 segments	metal 5 segments
Protection class	IP	40	40	40
Outer diameter	mm	8	8	8
Motor length	mm	16	16	16
No-load current	mA	15	7	6
Stall torque	mNm	0.82	0.88	0.58
Stall current	mA	310	240	130
Nominal torque	mNm	0.25	0.3	0.15
Nominal speed	rpm	9530	9730	11520

Characteristics	Unit	0816N5M02-137-4.2	0816N5M11-148-6.0	0816N5M01-155-8.0
Nominal current	mA	100	90	40

Drawings

10mm Micro DC Coreless Motors

1016N7M

1016N7M 10mm Micro DC Coreless Motor Series offers a compact and efficient drive solution optimized for precision-oriented applications. Equipped with precious metal commutation, these motors deliver low electrical noise, extended lifespan, and high energy conversion efficiency—critical factors for advanced motion control and miniature actuation.



• Key Features:

- 10mm diameter for space-constrained designs
- Coreless DC construction ensures low inertia and smooth operation
- Precious metal commutation provides reliable electrical contact and minimal wear
- Available with application-specific shaft lengths, special coil windings, and gear head options

• Typical Applications:

- Precision drives in medical equipment and devices such as infusion pumps and micro-pumps
- Healthcare products requiring quiet, efficient actuation
- Robotics solutions for miniature mechanisms and end effectors
- Industrial automation tasks with stringent space and performance requirements

• Benefits:

- Superior responsiveness and controlled acceleration due to low rotor inertia
- Flexible customization supports unique integration needs
- Long operational life and reduced maintenance intervals, thanks to robust commutation

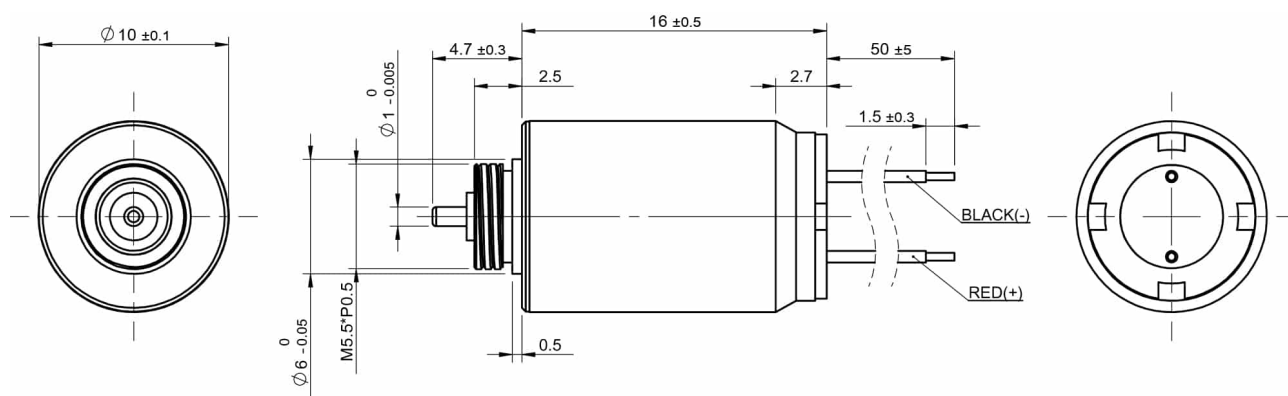
The 1016N7M micro DC motors are engineered for OEMs and system designers seeking compact, high-performance solutions in demanding environments.


<https://www.kocomotion.de/produkt/1016n7m/>

Motor Specifications	Unit	1016N7M02-165-6.0	1016N7M03-145-6.0	1016N7M04-175-4.5
Rated voltage	V	6.0	3.0	4.5
Max. output power	W	0.89	0.52	0.72
Max. efficiency	%	68	60	61
Back-EMF constant	mV/rpm	0.4	0.2	0.2
Torque constant	mNm/A	3.4	1.9	2.3
Speed/torque gradient	rpm/mNm	8000	10600	11100
Rotor inertia	gcm ²	0.05	0.05	0.05
Weight	g	6.4	6.4	6.4
Thermal resistance housing-ambient	K/W	54.5	54.5	54.5
Thermal resistance winding-housing	K/W	23.9	23.9	23.9
Thermal time constant motor	s	104	104	104
Terminal resistance	Ω	9.6	3.9	6.3
Thermal time constant winding	s	28	28	28
Operating temperature	°C	-20~+85	-20~+85	-20~+85
Thermal class of winding	°C	130	130	130
Axial play	mm	0.01~0.15	0.01~0.15	0.01~0.15
Radial play	mm	0.012	0.012	0.012
Axial load dynamic	N	0.15	0.15	0.15
Axial load static	N	10	10	10
Radial load at 3 mm from mounting face	N	0.7	0.7	0.7
No. of pole pairs		1	1	1
Bearings		2 sleeve bearings	2 sleeve bearings	2 sleeve bearings
No-load speed	rpm	16500	14500	17500
Commutator		metal 7 segments	metal 7 segments	metal 7 segments
Protection class	IP	40	40	40
Outer diameter	mm	10 +/- 0.1	10 +/- 0.1	10 +/- 0.1
Motor length	mm	16 +/- 0.5	16 +/- 0.5	16 +/- 0.5
No-load current	mA	20	40	35
Stall torque	mNm	2.1	1.4	1.6
Stall current	mA	630	770	710
Nominal torque	mNm	0.5	0.3	0.3
Nominal speed	rpm	12480	11320	14170

Motor Specifications	Unit	1016N7M02-165-6.0	1016N7M03-145-6.0	1016N7M04-175-4.5
Nominal current	mA	170	200	160

Drawings



10mm Coreless DC Motor

1020N5M

1020N5M 10mm Micro DC Coreless Motor

- **Precious Metal Commutation:** Ensures low resistance, high efficiency, and outstanding electrical performance, making it ideal for sensitive and battery-powered equipment.
- **Compact 10mm Design:** Optimized for installations with limited space while delivering reliable output for precision-driven applications.
- **Customizable Features:** Adapt lead wire length, shaft length, coil specifications, and integrate optional gear heads for perfect alignment with your device's requirements.

Key Applications:

- Precision drives in medical equipment and diagnostic devices
- Healthcare products demanding quiet and reliable operation
- Robotics requiring rapid response and accuracy
- Industrial automation systems built for continuous performance

Benefits:

- Micro-size enables integration in highly miniaturized assemblies
- Low current draw extends battery life in portable equipment
- Flexible options allow for easy adaptation to custom OEM projects
- Consistent quality and low electromagnetic interference

With its outstanding precision, configurable options, and proven reliability, the 1020N5M motor series excels in performance-critical applications across medical, healthcare, robotics, and automation sectors.



<https://www.kocomotion.de/produkt/1020n5m/>

Characteristics	Unit	1020N5M52-115-3.0	1020N5M14-125-6.0	1020N5M16-280-7.4
Rated voltage	V	3.0	6.0	7.4
Max. output power	W	0.57	0.72	4.04
Max. efficiency	%	74	69	78
Back-EMF constant	mV/rpm	0.3	0.5	0.3
Torque constant	mNm/A	2.4	4.4	2.5
Speed/torque gradient	rpm/mNm	6100	6100	6100
Rotor inertia	gcm ²	0.07	0.07	0.07
Weight	g	6.1	6.1	6.1
Thermal resistance housing-ambient	K/W	38.5	38.5	38.5
Thermal resistance winding-housing	K/W	33.2	33.2	33.2
Thermal time constant motor	s	78	78	78
Terminal resistance	Ω	3.8	11.7	3.3
Thermal time constant winding	s	61	61	61
Operating temperature	°C	-20~+85	-20~+85	-20~+85
Thermal class of winding	°C	130	130	130
Axial play	mm	0.01-0.15	0.01-0.15	0.01-0.15
Radial play	mm	0.012	0.012	0.012
Axial load dynamic	N	0.15	0.15	0.15
Axial load static	N	15	15	15
Radial load at 3 mm from mounting face	N	0.4	0.4	0.4
No. of pole pairs		1	1	1
Bearings		2 sleeve bearings	2 sleeve bearings	2 sleeve bearings
No-load speed	rpm	11500	12500	28000
Commutator		metal 5 segments	metal 5 segments	metal 5 segments
Protection class	IP	40	40	40
Outer diameter	mm	10	10	10
Motor length	mm	20	20	20
No-load current	mA	16	15	30
Stall torque	mNm	1.9	2.2	5.5
Stall current	mA	790	510	2240
Nominal torque	mNm	0.5	0.5	1.0
Nominal speed	rpm	8460	9660	22910

Characteristics	Unit	1020N5M52-115-3.0	1020N5M14-125-6.0	1020N5M16-280-7.4
Nominal current	mA	220	130	430

Drawings

10mm Coreless DC Micro Motor

1024N5M

1024N5M Series – 10mm Coreless Micro DC Motor

The 1024N5M is a high-performance 10mm micro DC coreless motor engineered for demanding applications requiring compact form factor and precise motion control. With precious metal commutation, this series delivers low electrical noise, high efficiency, and exceptional durability, making it suitable for continuous operation in sensitive environments.

- **Core Features:**

- Coreless rotor design for low inertia and rapid response
- Precious metal commutation for quiet, efficient operation
- Ultra-compact 10mm diameter ideal for space-constrained applications

- **Applications:**

- Precision drives in medical equipment and diagnostic devices
- Healthcare products requiring reliable, long-life miniature motors
- Robotics actuators and micro mechanisms
- Industrial automation systems focused on precise control in small spaces

- **Customization & Options:**

- Lead wires length and shaft length variations
- Special coil configurations
- Gear head and encoder integration for extended functionality

This family offers a flexible platform for OEMs seeking reliable micro-motion solutions, ensuring both design adaptability and long-term performance in advanced automation and medical applications.

<https://www.kocomotion.de/produkt/1025n5m/>

Characteristics	Unit	1024N5M02-130-6.0	1024N5M05-150-12.0	1024N5M07-95-3.0
Rated voltage	V	6.0	12.0	3.0
Max. output power	W	1.32	1.53	0.53
Max. efficiency	%	73	74	73
Back-EMF constant	mV/rpm	0.5	0.8	0.3
Torque constant	mNm/A	4.3	7.5	3.0
Speed/torque gradient	rpm/mNm	3300	3800	4500
Rotor inertia	gcm ²	0.09	0.09	0.09
Weight	g	9.2	9.2	9.2
Thermal resistance housing-ambient	K/W	33.6	33.6	33.6
Thermal resistance winding-housing	K/W	36.8	36.8	36.8
Thermal time constant motor	s	113	113	113
Terminal resistance	Ω	6.5	22.5	4.1
Thermal time constant winding	s	90	90	90
Operating temperature	°C	-20~+85	-20~+85	-20~+85
Thermal class of winding	°C	130	130	130
Axial play	mm	0.01-0.15	0.01-0.15	0.01-0.15
Radial play	mm	0.012	0.012	0.012
Axial load dynamic	N	0.15	0.15	0.15
Axial load static	N	15	15	15
Radial load at 3 mm from mounting face	N	0.4	0.4	0.4
No. of pole pairs		1	1	1
Bearings		2 sleeve bearings	2 sleeve bearings	2 sleeve bearings
No-load speed	rpm	13000	15000	9500
Commutator		metal 5 segments	metal 5 segments	metal 5 segments
Protection class	IP	40	40	40
Outer diameter	mm	10	10	10
Motor length	mm	24	24	24
No-load current	mA	20	10	15
Stall torque	mNm	3.9	3.9	2.1
Stall current	mA	920	530	730
Nominal torque	mNm	1.0	1.0	0.6
Nominal speed	rpm	9650	11150	6800

Characteristics	Unit	1024N5M02-130-6.0	1024N5M05-150-12.0	1024N5M07-95-3.0
Nominal current	mA	250	140	220

Drawings

12mm Micro DC Coreless Motors

1221N5M

The **1221N5M 12mm Micro DC Coreless Motor series** features advanced coreless technology and precious metal commutation to deliver highly efficient, low-inertia performance in compact environments. Designed for demanding applications where reliability, precision, and smooth motion are critical, this series is particularly well-suited for:

- Precision drives in medical equipment and devices
- Healthcare products requiring reliable micro-actuation
- Robotics systems focused on agility and responsiveness
- Industrial automation where space and weight savings are essential

Key Features and Benefits:

- Diameter: 12 mm micro form factor for space-constrained designs
- **Coreless construction** ensures low rotor inertia and fast dynamic response
- **Precious metal commutation** increases energy efficiency and extends operational life
- Multiple configuration options available: customizable shaft lengths, special windings, and gear head compatibility

With flexible design options and consistent performance, the 1221N5M family is the preferred choice for high-precision motion control in next-generation medical, robotics, and industrial systems.



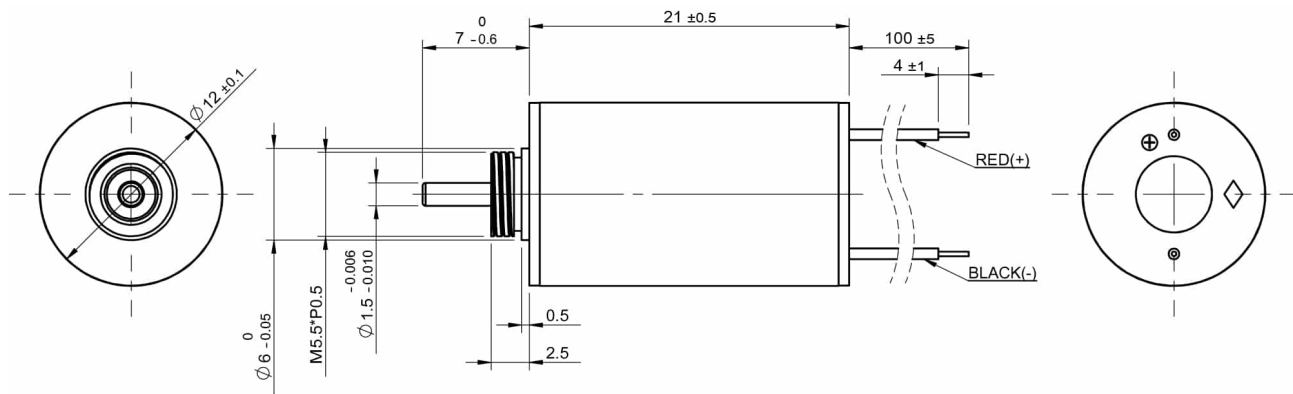
<https://www.kocomotion.de/produkt/1221n5m/>



Motor Specifications	Unit	1221N5M34-78-3.3	1221N5M65-125-3.7	1221N5M66-78-6.0
Rated voltage	V	3.3	3.7	6.0
Max. output power	W	0.4	1.57	0.54
Max. efficiency	%	65	74	57
Back-EMF constant	mV/rpm	0.4	0.3	0.7
Torque constant	mNm/A	3.9	2.8	6.9
Speed/torque gradient	rpm/mNm	4000	2600	2900
Rotor inertia	gcm ²	0.15	0.15	0.15
Weight	g	10.4	10.4	10.4
Thermal resistance housing-ambient	K/W	33.3	33.3	33.3
Thermal resistance winding-housing	K/W	35.3	35.3	35.3
Thermal time constant motor	s	144	144	144
Terminal resistance	Ω	6.4	2.1	14.5
Thermal time constant winding	s	120	120	120
Operating temperature	°C	-20~+85	-20~+85	-20~+85
Thermal class of winding	°C	130	130	130
Axial play	mm	0.02-0.15	0.02-0.15	0.02-0.15
Radial play	mm	0.014	0.014	0.014
Axial load dynamic	N	0.8	0.8	0.8
Axial load static	N	30	30	30
Radial load at 3 mm from mounting face	N	1	1	1
No. of pole pairs		1	1	1
Bearings		2 ball bearings	2 ball bearings	2 ball bearings
No-load speed	rpm	7800	12500	7800
Commutator		metal 5 segments	metal 5 segments	metal 5 segments
Protection class	IP	40	40	40
Outer diameter	mm	12 +/- 0.1	12 +/- 0.1	12 +/- 0.1
Motor length	mm	21 +/- 0.5	21 +/- 0.5	21 +/- 0.5
No-load current	mA	20	35	25
Stall torque	mNm	1.9	4.8	2.7
Stall current	mA	520	1760	410
Nominal torque	mNm	0.5	1.0	1.0
Nominal speed	rpm	5790	9880	4860

Motor Specifications	Unit	1221N5M34-78-3.3	1221N5M65-125-3.7	1221N5M66-78-6.0
Nominal current	mA	150	400	170

Drawings



12mm Coreless DC Micro Motor

1221N5M2B

1221N5M2B - 12mm Micro DC Coreless Motor Series

The 1221N5M2B series offers compact, high-performance coreless DC motors engineered for precision and reliability in critical industrial and medical environments. Utilizing **precious metal commutation**, these motors deliver ultra-smooth, low-noise operation and extended service life, making them an excellent choice for applications with stringent requirements on performance and space.



- **Coreless Design:** Lightweight design lowers inertial load for rapid acceleration and smooth motion control.
- **12mm Outer Diameter:** Compact form factor ideal for integration in miniature assemblies and tight spaces.
- **Customizable Options:** Various shaft lengths, special coils, and gearheads available to match specific performance needs.
- **Flexible Voltage Ranges:** Supports multiple model variants for operational voltages from 3.0V up to 12.0V.

Applications:

- Precision drives in medical equipment and devices
- Healthcare products
- Robotics
- Industrial automation systems

With a proven track record in high-precision and high-reliability environments, the 1221N5M2B motors are the preferred choice for OEMs and system integrators seeking consistent performance, customization capabilities, and uncompromising quality in demanding motion control solutions.


<https://www.kocomotion.de/produkt/1221n5m2b/>

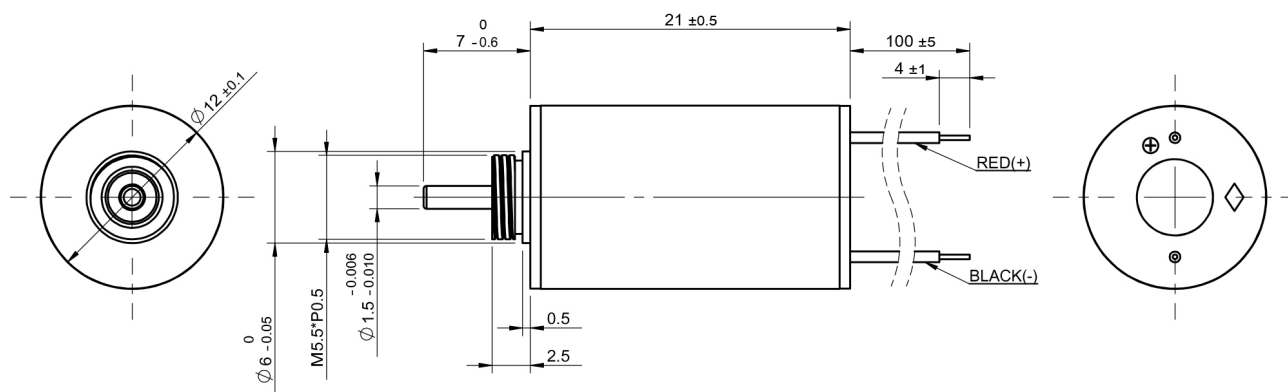
Motor Specifications	Unit	1221N5M2B27-28-3.0	1221N5M2B34-78-3.3	1221N5M2B55-79-3.3
Rated voltage	V	3.0	3.3	3.3
Max. output power	W	0.05	0.41	0.37
Max. efficiency	%	56	72	68
Back-EMF constant	mV/rpm	1.0	0.4	0.4
Torque constant	mNm/A	9.6	3.9	3.9
Speed/torque gradient	rpm/mNm	3900	3900	4400
Rotor inertia	gcm ²	0.15	0.15	0.15
Weight	g	10.4	10.4	10.4
Thermal resistance housing-ambient	K/W	33.3	33.3	33.3
Thermal resistance winding-housing	K/W	35.3	35.3	35.3
Thermal time constant motor	s	144	144	144
Terminal resistance	Ω	37	6.4	6.9
Thermal time constant winding	s	120	120	120
Operating temperature	°C	-20~+85	-20~+85	-20~+85
Thermal class of winding	°C	130	130	130
Axial play	mm	0.02-0.15	0.02-0.15	0.02-0.15
Radial play	mm	0.025	0.025	0.025
Axial load dynamic	N	0.8	0.8	0.8
Axial load static	N	30	30	30
Radial load at 3 mm from mounting face	N	1	1	1
No. of pole pairs		1	1	1
Bearings		2 ball bearings	2 ball bearings	2 ball bearings
No-load speed	rpm	2800	7800	7900
Commutator		metal 5 segments	metal 5 segments	metal 5 segments
Protection class	IP	40	40	40
Outer diameter	mm	12 +/- 0.1	12 +/- 0.1	12 +/- 0.1
Motor length	mm	21	21	21
No-load current	mA	5	12	15
Stall torque	mNm	0.7	2.0	1.8
Stall current	mA	80	520	480
Nominal torque	mNm	0.1	0.2	0.2
Nominal speed	rpm	2410	7020	7020

Motor Specifications	Unit	1221N5M2B27-28-3.0	1221N5M2B34-78-3.3	1221N5M2B55-79-3.3
Nominal current	mA	20	60	70

Motor Specifications	Unit	1221N5M2B45-84-5.0	1221N5M2B58-91-12.0
Rated voltage	V	5.0	12.0
Max. output power	W	0.61	0.69
Max. efficiency	%	74	73
Back-EMF constant	mV/rpm	0.6	1.3
Torque constant	mNm/A	5.6	12.3
Speed/torque gradient	rpm/mNm	3000	3100
Rotor inertia	gcm ²	0.15	0.15
Weight	g	10.4	10.4
Thermal resistance housing-ambient	K/W	33.3	33.3
Thermal resistance winding-housing	K/W	35.3	35.3
Thermal time constant motor	s	144	144
Terminal resistance	Ω	9.8	50
Thermal time constant winding	s	120	120
Operating temperature	°C	-20~+85	-20~+85
Thermal class of winding	°C	130	130
Axial play	mm	0.02-0.15	0.02-0.15
Radial play	mm	0.025	0.025
Axial load dynamic	N	0.8	0.8
Axial load static	N	30	30
Radial load at 3 mm from mounting face	N	1	1
No. of pole pairs		1	1
Bearings		2 ball bearings	2 ball bearings
No-load speed	rpm	8400	9100
Commutator		metal 5 segments	metal 5 segments
Protection class	IP	40	40
Outer diameter	mm	12 +/- 0.1	12 +/- 0.1
Motor length	mm	21	21
No-load current	mA	10	5
Stall torque	mNm	2.8	2.9
Stall current	mA	510	240
Nominal torque	mNm	0.5	0.5
Nominal speed	rpm	6890	7530

Motor Specifications	Unit	1221N5M2B45-84-5.0	1221N5M2B58-91-12.0
Nominal current	mA	100	50

Drawings



12mm Coreless Micro DC Motor

1230N5M

The **1230N5M series** represents a high-precision line of 12mm micro DC coreless motors engineered for demanding motion control applications. Incorporating **precious metal commutation**, these motors deliver precise, low-noise operation and outstanding energy efficiency, making them suitable for space-constrained environments requiring stable and reliable performance.



- **Compact Form Factor:** 12mm diameter coreless design enables integration into miniature assemblies and portable devices.
- **Commutation:** Precious metal brushes ensure low electrical noise, exceptional lifetime, and consistent current transmission.
- **Versatile Customization:** Options available for shaft length, special coil configurations, bearing types, and compatibility with gear heads to match specific technical and installation requirements.

Key Applications:

- Precision drives in medical equipment and devices
- Healthcare instrumentation
- Advanced robotics
- Industrial automation systems

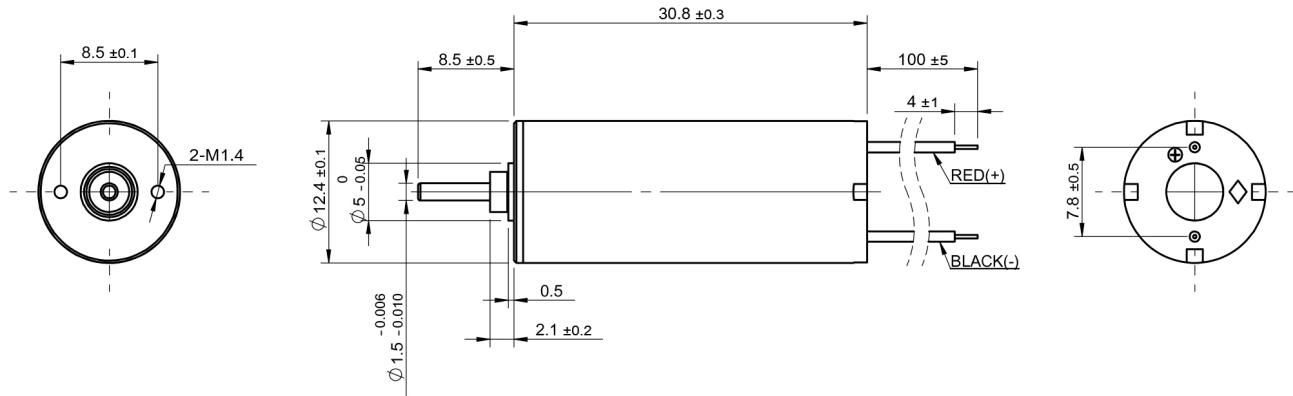
This series is distinguished by its robust reliability and adaptability—providing OEMs and system integrators with both performance and flexibility. Whether optimizing miniature actuation in medical tools or enabling responsive motion in robotics, the 1230N5M series is designed to meet the highest standards of efficiency, motion precision, and design integration.



<https://www.kocomotion.de/produkt/1230n5m/>

Motor Specifications	Unit	1230N5M06-44-5.3	1230N5M15-113-12.0	1230N5M05-76-24.0
Rated voltage	V	5.3	12.0	24.0
Max. output power	W	0.52	3.36	1.74
Max. efficiency	%	71	79	76
Back-EMF constant	mV/rpm	1.2	1	3.1
Torque constant	mNm/A	11.1	10	29.6
Speed/torque gradient	rpm/mNm	1000	990	900
Rotor inertia	gcm ²	0.25	0.25	0.25
Weight	g	17.7	17.7	17.9
Thermal resistance housing-ambient	K/W	35.2	35.2	35.2
Thermal resistance winding-housing	K/W	12.5	12.5	12.5
Thermal time constant motor	s	202	202	202
Terminal resistance	Ω	12.9	10.4	81
Thermal time constant winding	s	20	20	20
Operating temperature	°C	-20~+85	-20~+85	-20~+85
Thermal class of winding	°C	130	130	130
Axial play	mm	0.02-0.15	0.02-0.15	0.02-0.15
Radial play	mm	0.014	0.014	0.014
Axial load dynamic	N	0.8	0.8	0.8
Axial load static	N	30	30	30
Radial load at 3 mm from mounting face	N	1.4	1.4	1.4
No. of pole pairs		1	1	1
Bearings		2 ball bearings	2 ball bearings	2 ball bearings
No-load speed	rpm	4450	11300	7600
Commutator		metal 5 segments	metal 5 segments	metal 5 segments
Outer diameter	mm	12.4 +/- 0.1	12.4 +/- 0.1	12.4 +/- 0.1
Motor length	mm	30.8 +/- 0.3	30.8 +/- 0.3	30.8 +/- 0.3
No-load current	mA	10	15	5
Stall torque	mNm	4.4	11.4	8.7
Stall current	mA	410	1150	300
Nominal torque	mNm	0.9	3	2
Nominal speed	rpm	3550	8320	5860
Nominal current	mA	90	310	70

Drawings



13mm Coreless Micro DC Motor

1319N5M

The **1319N5M 13mm micro DC coreless motor** family is engineered for demanding precision applications where performance and reliability are paramount. Utilizing precious metal commutation, these motors deliver low electrical noise and high efficiency in a compact and lightweight design.



- **Key Features:**

- 13mm diameter micro DC coreless construction
- Precious metal commutation for enhanced lifetime and reliability
- Multiple configuration options: shaft length, special coils, bearing types, and gear heads
- Optimized for compact spaces and minimal weight requirements

- **Typical Applications:**

- Precision drives in medical equipment and devices
- Healthcare products demanding low noise operation
- Lightweight robotics for dexterous motion control
- Industrial automation systems requiring efficient, reliable motors

- **Benefits:**

- High performance in compact form factor
- Flexible customization to match specific application requirements
- Extended operational life due to advanced commutation

Choose the 1319N5M series for your next-generation precision motion control demands.

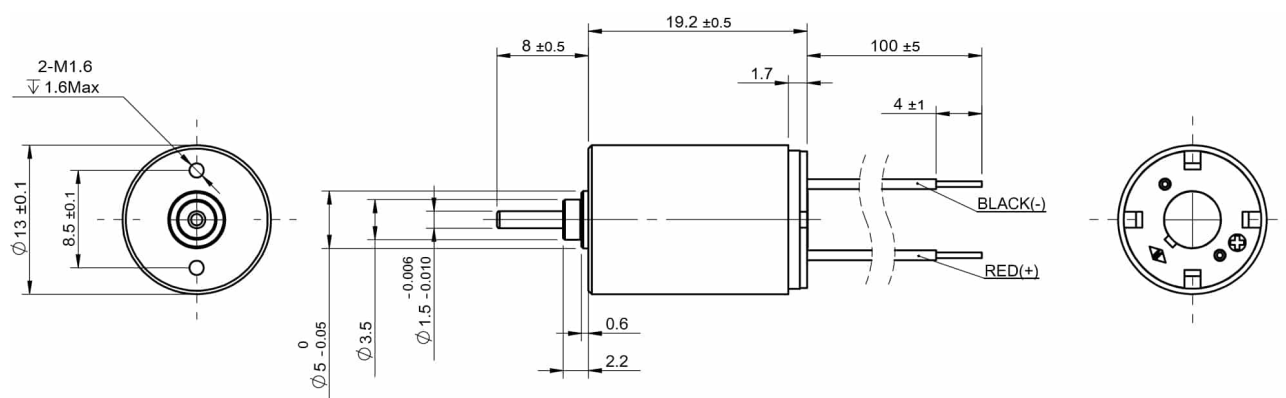


<https://www.kocomotion.de/produkt/1319n5m/>

Motor Specifications	Unit	1319N5M02-86-6.0	1319N5M03-120-9.0	1319N5M01-130-12.0
Rated voltage	V	6.0	9.0	12.0
Max. output power	W	0.51	0.85	1.01
Max. efficiency	%	59	68	67
Back-EMF constant	mV/rpm	0.7	0.7	0.9
Torque constant	mNm/A	6.3	6.9	8.5
Speed/torque gradient	rpm/mNm	3800	4500	4400
Rotor inertia	gcm ²	0.2	0.2	0.2
Weight	g	11	11	11
Thermal resistance housing-ambient	K/W	34.5	34.5	34.5
Thermal resistance winding-housing	K/W	22.5	22.5	22.5
Thermal time constant motor	s	280	280	280
Terminal resistance	Ω	15.6	22.5	33
Thermal time constant winding	s	120	120	120
Operating temperature	°C	-20~+85	-20~+85	-20~+85
Thermal class of winding	°C	130	130	130
Axial play	mm	0.02-0.15	0.02-0.15	0.02-0.15
Radial play	mm	0.014	0.014	0.014
Axial load dynamic	N	0.8	0.8	0.8
Axial load static	N	30	30	30
Radial load at 3 mm from mounting face	N	1.4	1.4	1.4
No. of pole pairs		1	1	1
Bearings		2 Sleeve bearings	2 Sleeve bearings	2 Sleeve bearings
No-load speed	rpm	8600	12000	13000
Commutator		metal 5 segments	metal 5 segments	metal 5 segments
Protection class	IP	30	30	30
Outer diameter	mm	13 +/- 0.1	13 +/- 0.1	13 +/- 0.1
Motor length	mm	19.2 +/- 0.5	19.2 +/- 0.5	19.2 +/- 0.5
No-load current	mA	20	12	12
Stall torque	mNm	2.3	2.7	3.0
Stall current	mA	380	400	360
Nominal torque	mNm	0.5	1	1
Nominal speed	rpm	6710	7550	8620

Motor Specifications	Unit	1319N5M02-86-6.0	1319N5M03-120-9.0	1319N5M01-130-12.0
Nominal current	mA	100	160	130

Drawings



13mm Micro DC Coreless Motors

1319N7M

1319N7M 13mm Micro DC Coreless Motors deliver high-precision performance for demanding miniature drive applications. Their coreless design with **precious metal commutation** provides low noise operation, reduced cogging, and exceptional efficiency, making them a preferred choice for sensitive environments.



- **Key Features:**

- Compact 13mm diameter for space-constrained applications
- Lightweight, coreless architecture minimizes inertia
- Precious metal commutation for reliable, consistent operation
- Customizable options: shaft length, special coils, bearing types, and gear heads

- **Applications:**

- Precision drives in medical equipment and diagnostic devices
- Healthcare products requiring quiet and accurate actuation
- Robotics and automation systems
- Industrial automation and instrumentation

- **Benefits:**

- High efficiency and long service life reduce maintenance costs
- Excellent controllability for precision motion tasks
- Flexible configuration to match specific project needs

The 1319N7M series is engineered to exceed expectations in compact, high-reliability drive solutions, providing a vital advantage for innovative OEM applications.

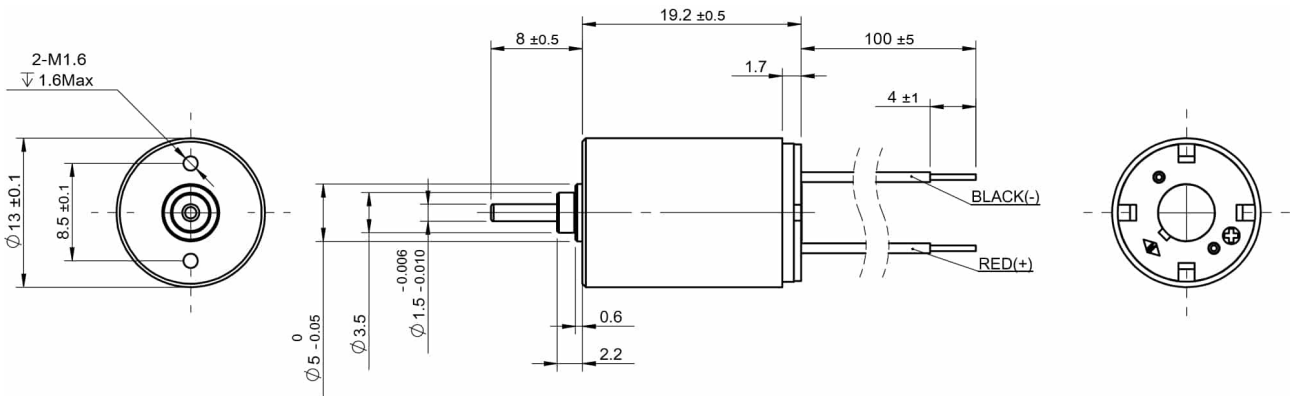


<https://www.kocomotion.de/produkt/1319n7m/>

Motor Specifications	Unit	1319N7M02-88-6.0	1319N7M03-100-9.0	1319N7M01-125-12.0
Rated voltage	V	6.0	9.0	12.0
Max. output power	W	0.56	0.72	1.07
Max. efficiency	%	61	63	68
Back-EMF constant	mV/rpm	0.6	0.9	0.9
Torque constant	mNm/A	6.2	8.2	8.9
Speed/torque gradient	rpm/mNm	3600	3600	3800
Rotor inertia	gcm ²	0.2	0.2	0.2
Weight	g	11	11	11
Thermal resistance housing-ambient	K/W	34.5	34.5	34.5
Thermal resistance winding-housing	K/W	22.5	22.5	22.5
Thermal time constant motor	s	280	280	280
Terminal resistance	Ω	14.7	25.5	32
Thermal time constant winding	s	120	120	120
Operating temperature	°C	-20~+85	-20~+85	-20~+85
Thermal class of winding	°C	130	130	130
Axial play	mm	0.02-0.15	0.02-0.15	0.02-0.15
Radial play	mm	0.014	0.014	0.014
Axial load dynamic	N	0.8	0.8	0.8
Axial load static	N	30	30	30
Radial load at 3 mm from mounting face	N	1.4	1.4	1.4
No. of pole pairs		1	1	1
Bearings		2 Sleeve bearings	2 Sleeve bearings	2 Sleeve bearings
No-load speed	rpm	8800	10000	12500
Commutator		metal 7 segments	metal 7 segments	metal 7 segments
Protection class	IP	30	30	30
Outer diameter	mm	13 +/- 0.1	13 +/- 0.1	13 +/- 0.1
Motor length	mm	19.2 +/- 0.5	19.2 +/- 0.5	19.2 +/- 0.5
No-load current	mA	20	15	12
Stall torque	mNm	2.4	2.8	3.3
Stall current	mA	410	350	380
Nominal torque	mNm	0.5	0.5	1
Nominal speed	rpm	6980	8190	8670

Motor Specifications	Unit	1319N7M02-88-6.0	1319N7M03-100-9.0	1319N7M01-125-12.0
Nominal current	mA	100	80	120

Drawings



13mm Micro DC Coreless Motor

1331N5M

1331N5M Micro DC Coreless Motors are engineered to deliver precise, efficient motion in compact spaces where reliability is critical. Featuring a 13mm diameter and precious metal commutation, these coreless motors are optimized for applications demanding high responsiveness and consistent performance.



• Key Features:

- 13mm compact form factor for space-limited designs
- Coreless rotor technology minimizes inertia and ensures smooth operation
- Precious metal commutation for reliable electrical contact and low noise
- High efficiency and low power consumption
- Multiple versions available for tailored electrical characteristics

• Applications:

- Precision drives in medical equipment and devices
- Healthcare product actuation
- Miniaturized robotics and automation systems
- Industrial automation requiring high-precision miniature drives

• Options for Customization:

- Lead wires length
- Shaft length
- Special coil windings for unique voltage or speed requirements
- Gear head integration for torque adaptation

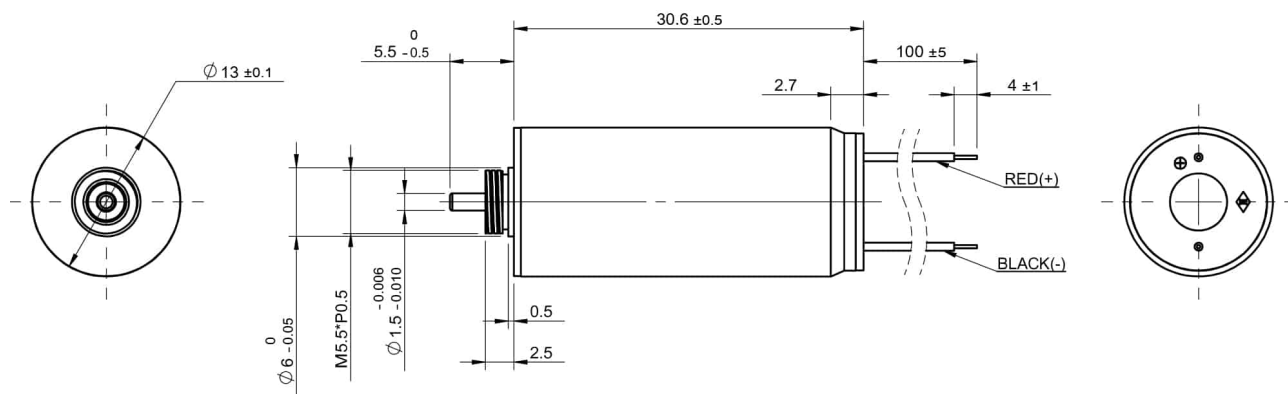
With a robust design and versatile configuration options, the 1331N5M series is ideal for OEMs and system integrators seeking reliable micro motion solutions for critical applications.


<https://www.kocomotion.de/produkt/1331n5m/>

Characteristics	Unit	1331N5M02-40-4.5	1331N5M01-67-9.0	1331N5M09-87-12.0
Rated voltage	V	4.5	9.0	12.0
Max. output power	W	0.5	1.12	2.22
Max. efficiency	%	80	78	78
Back-EMF constant	mV/rpm	1.1	1.3	1.4
Torque constant	mNm/A	10.6	12.7	13
Speed/torque gradient	rpm/mNm	800	1100	900
Rotor inertia	gcm ²	0.52	0.52	0.52
Weight	g	20	20	20
Thermal resistance housing-ambient	K/W	34.8	34.8	34.8
Thermal resistance winding-housing	K/W	38.6	38.6	38.6
Thermal time constant motor	s	211	211	211
Terminal resistance	Ω	9.9	17.7	15.7
Thermal time constant winding	s	163	163	163
Operating temperature	°C	-20~+85	-20~+85	-20~+85
Thermal class of winding	°C	130	130	130
Axial play	mm	0.02-0.15	0.02-0.15	0.02-0.15
Radial play	mm	0.014	0.014	0.014
Axial load dynamic	N	0.8	0.8	0.8
Axial load static	N	30	30	30
Radial load at 3 mm from mounting face	N	1.4	1.4	1.4
No. of pole pairs		1	1	1
Bearings		2 sleeve bearings	2 sleeve bearings	2 sleeve bearings
No-load speed	rpm	4000	6700	8700
Commutator		metal 5 segments	metal 5 segments	metal 5 segments
Protection class	IP	30	30	30
Outer diameter	mm	13 +/- 0.1	13 +/- 0.1	13 +/- 0.1
Motor length	mm	30.6 +/- 0.5	30.6 +/- 0.5	30.6 +/- 0.5
No-load current	mA	5	7	10
Stall torque	mNm	4.7	6.4	9.7
Stall current	mA	450	510	760
Nominal torque	mNm	1	1	2
Nominal speed	rpm	3150	5650	6920

Characteristics	Unit	1331N5M02-40-4.5	1331N5M01-67-9.0	1331N5M09-87-12.0
Nominal current	mA	100	90	160

Drawings



13mm Coreless DC Micro Motor

1331N7M

1331N7M 13mm Micro DC Coreless Motor Family

The 1331N7M series is engineered for high-precision, demanding applications that require compactness and efficiency. Utilizing precious metal commutation, these coreless DC motors deliver low electrical noise, consistent torque, and enhanced operational lifespan—making them ideal for integration into sensitive and space-constrained installations.



- **Precious Metal Commutation:** Ensures low contact resistance and reliable electrical performance, minimizing maintenance needs.
- **Compact 13mm Diameter:** Perfect for applications where space is at a premium while still requiring strong performance.
- **Customizable Options:** Available with tailored shaft lengths, special coils, bearing types, and a variety of compatible gear heads to address specific design and performance requirements.

Key Application Areas:

- Precision drives in medical equipment and devices
- Advanced healthcare products
- Robotics for industrial and commercial sectors
- Industrial automation systems where compact, precise motion is essential

With robust adaptability and high efficiency, the 1331N7M series provides reliable and quiet operation, making it the preferred choice for engineers seeking performance and versatility in micro motion control solutions.

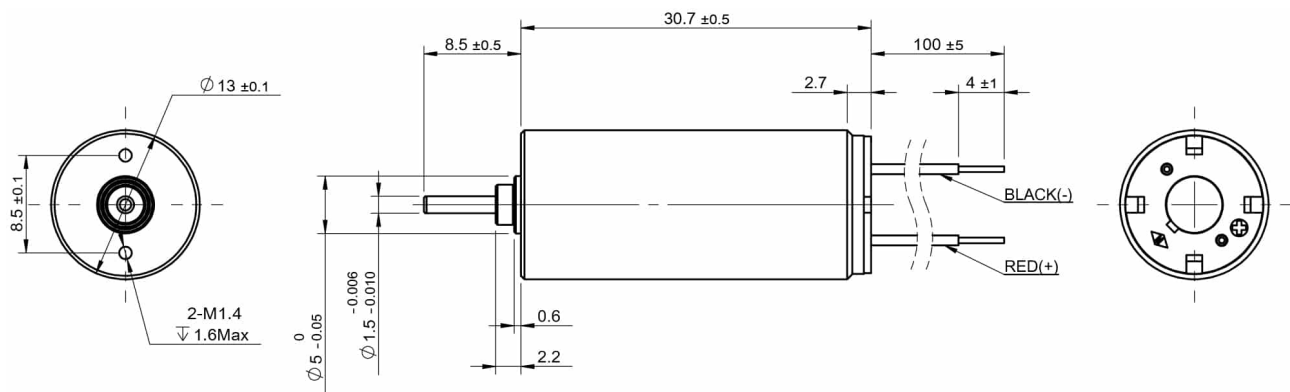


<https://www.kocomotion.de/produkt/1331n7m/>

Characteristics	Unit	1331N7M02-110-6.0	1331N7M03-148-12.0	1331N7M01-96-24.0
Rated voltage	V	6.0	12.0	24.0
Max. output power	W	3.39	6.97	3.69
Max. efficiency	%	80	76	79
Back-EMF constant	mV/rpm	0.5	0.8	2.6
Torque constant	mNm/A	5.2	7.6	24.6
Speed/torque gradient	rpm/mNm	900	800	600
Rotor inertia	gcm ²	0.52	0.52	0.52
Weight	g	20	20	20
Thermal resistance housing-ambient	K/W	34.8	34.8	34.8
Thermal resistance winding-housing	K/W	38.6	38.6	38.6
Thermal time constant motor	s	211	211	211
Terminal resistance	Ω	2.6	5.0	38
Thermal time constant winding	s	163	163	163
Operating temperature	°C	-20~+85	-20~+85	-20~+85
Thermal class of winding	°C	130	130	130
Axial play	mm	0.02-0.15	0.02-0.15	0.02-0.15
Radial play	mm	0.014	0.014	0.014
Axial load dynamic	N	0.8	0.8	0.8
Axial load static	N	30	30	30
Radial load at 3 mm from mounting face	N	1.4	1.4	1.4
No. of pole pairs		1	1	1
Bearings		2 sleeve bearings	2 sleeve bearings	2 sleeve bearings
No-load speed	rpm	11000	14800	9200
Commutator		metal 7 segments	metal 7 segments	metal 7 segments
Protection class	IP	30	30	30
Outer diameter	mm	13 +/- 0.1	13 +/- 0.1	13 +/- 0.1
Motor length	mm	30.7 +/- 0.5	30.7 +/- 0.5	30.7 +/- 0.5
No-load current	mA	25	40	8
Stall torque	mNm	11.8	18	15.3
Stall current	mA	2310	2400	630
Nominal torque	mNm	2	4	4
Nominal speed	rpm	9130	11510	6790

Characteristics	Unit	1331N7M02-110-6.0	1331N7M03-148-12.0	1331N7M01-96-24.0
Nominal current	mA	410	570	170

Drawings



15mm Micro DC Coreless Motors

1515N5M

1515N5M Series - 15mm Micro DC Coreless Motors

The 1515N5M Series consists of compact, high-performance DC coreless motors engineered for demanding precision applications. Utilizing precious metal commutation, these 15mm motors deliver exceptionally smooth and efficient operation with minimized electrical noise and reduced wear for extended lifespan.



- **Outstanding Performance:** Coreless design ensures low inertia and rapid dynamic response, making these motors ideal for precision drives.
- **Compact Form Factor:** With a 15mm diameter, the series is perfectly suited for space-constrained applications such as portable medical equipment and miniature robotic actuators.
- **Customizable Options:** Choose from various shaft lengths, bearing types, gear heads, and specialty coil configurations to optimize motor integration and performance.
- **Reliable Precious Metal Commutation:** Ensures consistent operation in sensitive environments, such as medical and healthcare devices.

Applications:

- Precision drives in medical equipment and devices
- Healthcare product mechanisms
- Robotics—actuator and motion solutions
- Industrial automation - compact, high-reliability motion control

Engineered for reliability and adaptability, the 1515N5M Series is the preferred choice for original equipment manufacturers seeking precision, longevity, and customizable integration in compact motion systems.

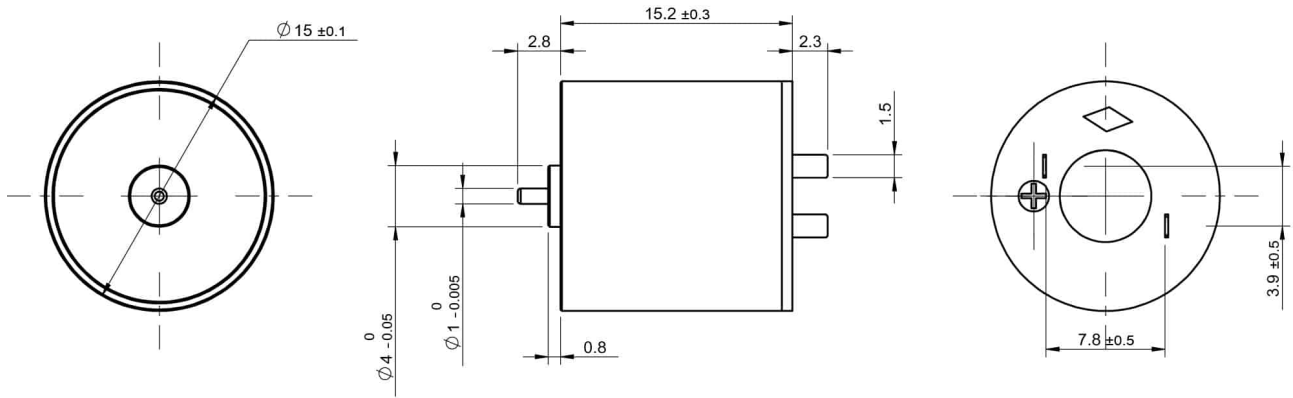


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Characteristics	Unit	1515N5M04-120-6.0	1515N5M02-260-7.4	1515N5M07-220-18.0
Rated voltage	V	6.0	7.4	18.0
Max. output power	W	1.52	5.33	2.52
Max. efficiency	%	74	78	71
Back-EMF constant	mV/rpm	0.5	0.3	0.8
Torque constant	mNm/A	4.7	2.7	7.6
Speed/torque gradient	rpm/mNm	2500	3300	5000
Rotor inertia	gcm ²	0.21	0.21	0.21
Weight	g	12	12	12
Thermal resistance housing-ambient	K/W	32.1	32.1	32.1
Thermal resistance winding-housing	K/W	26.3	26.3	26.3
Thermal time constant motor	s	130	130	130
Terminal resistance	Ω	5.7	2.5	30.5
Thermal time constant winding	s	98	98	98
Operating temperature	°C	-20~+85	-20~+85	-20~+85
Thermal class of winding	°C	130	130	130
Axial play	mm	≤0.3	≤0.3	≤0.3
Radial play	mm	0.012	0.012	0.012
Axial load dynamic	N	0.15	0.15	0.15
Axial load static	N	15	15	15
Radial load at 3 mm from mounting face	N	1	1	1
No. of pole pairs		1	1	1
Bearings		2 sleeve bearings	2 sleeve bearings	2 sleeve bearings
No-load speed	rpm	12000	26000	22000
Commutator		metal 5 segments	metal 5 segments	metal 5 segments
Protection class	IP	40	40	40
Outer diameter	mm	15 +/- 0.1	15 +/- 0.1	15 +/- 0.1
Motor length	mm	15.2 +/- 0.3	15.2 +/- 0.3	15.2 +/- 0.3
No-load current	mA	20	40	15
Stall torque	mNm	4.8	7.8	4.4
Stall current	mA	1050	2960	590
Nominal torque	mNm	1	1.5	1
Nominal speed	rpm	9510	21020	16980

Characteristics	Unit	1515N5M04-120-6.0	1515N5M02-260-7.4	1515N5M07-220-18.0
Nominal current	mA	230	600	150

Drawings



16mm Coreless DC Micro Motor

1620N5M

1620N5M - 16mm Micro DC Coreless Motor with Precious Metal Commutation

The 1620N5M series delivers exceptional performance in demanding precision drive applications. Its coreless design ensures smooth, efficient motion with minimal cogging, while precious metal commutation provides consistent electrical contact and enhanced durability.



- **Key Features:**

- 16mm compact micro motor format
- Coreless DC architecture for reduced inertia and high responsiveness
- Precious metal commutation for reliable and low-noise operation
- Supports tailored configurations: shaft length, special coils, and gear head integration

- **Typical Applications:**

- Precision drives in medical equipment and devices
- Healthcare products requiring compact, quiet motors
- Advanced robotics—actuators, end-effectors, and miniature servo systems
- Industrial automation tasks where size and accuracy are critical

- **Benefits:**

- Highly customizable to meet unique prototyping or production needs
- Exceptional reliability ensures reduced maintenance in mission-critical applications
- Ultra-compact design facilitates integration into space-constrained assemblies

The 1620N5M series is the professional choice for engineers seeking compact, high-performance DC coreless motors for precision motion tasks.

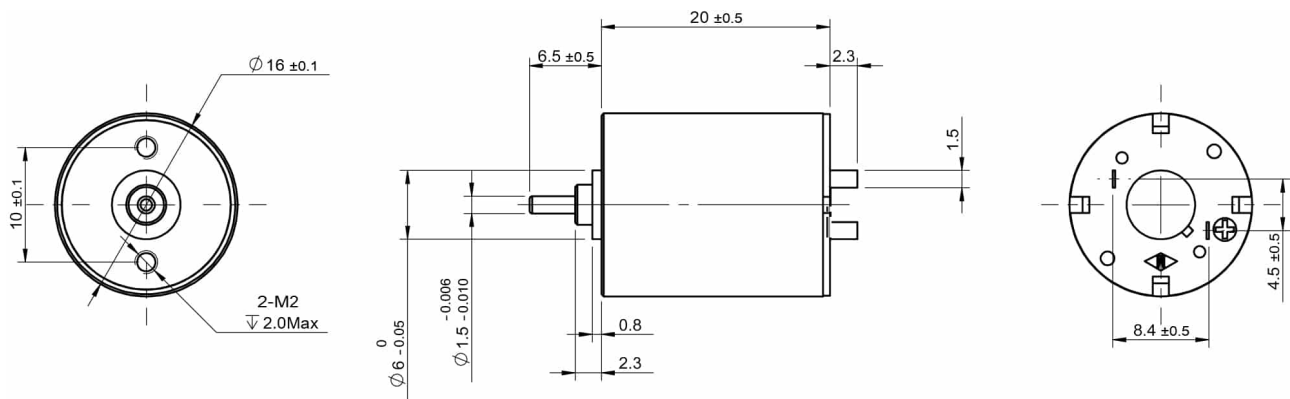


<https://www.kocomotion.de/produkt/1620n5m/>

Characteristics	Unit	1620N5M32-48-3.0	1620N5M01-75-5.0	1620N5M30-180-6.0
Rated voltage	V	3.0	5.0	6.0
Max. output power	W	0.34	0.45	2.96
Max. efficiency	%	80	68	71
Back-EMF constant	mV/rpm	0.6	0.6	0.3
Torque constant	mNm/A	5.8	6.2	3.1
Speed/torque gradient	rpm/mNm	1800	3300	2900
Rotor inertia	gcm ²	0.25	0.25	0.25
Weight	g	17	17	17
Thermal resistance housing-ambient	K/W	35.7	35.7	35.7
Thermal resistance winding-housing	K/W	25.6	25.6	25.6
Thermal time constant motor	s	172	172	172
Terminal resistance	Ω	6.5	13.3	2.9
Thermal time constant winding	s	122	122	122
Operating temperature	°C	-20~+85	-20~+85	-20~+85
Thermal class of winding	°C	130	130	130
Axial play	mm	0.02-0.15	0.02-0.15	0.02-0.15
Radial play	mm	0.014	0.014	0.014
Axial load dynamic	N	0.8	0.8	0.8
Axial load static	N	30	30	30
Radial load at 3 mm from mounting face	N	1.4	1.4	1.4
No. of pole pairs		1	1	1
Bearings		2 sleeve bearings	2 sleeve bearings	2 sleeve bearings
No-load speed	rpm	4850	7500	18000
Commutator		metal 5 segments	metal 5 segments	metal 5 segments
Protection class	IP	30	30	30
Outer diameter	mm	16 +/- 0.1	16 +/- 0.1	16 +/- 0.1
Motor length	mm	20 +/- 0.5	20 +/- 0.5	20 +/- 0.5
No-load current	mA	5	12	50
Stall torque	mNm	2.7	2.3	6.3
Stall current	mA	460	380	2070
Nominal torque	mNm	0.5	0.5	1
Nominal speed	rpm	3940	5850	15130

Characteristics	Unit	1620N5M32-48-3.0	1620N5M01-75-5.0	1620N5M30-180-6.0
Nominal current	mA	90	90	370

Drawings



16mm DC Motor for Tattoo & Precision Use

1625N9M

1625N9M 16mm Brushed DC Motor with Precious Metal Commutation

- **Compact Design:** 16mm diameter, optimized for space-constrained applications and high precision requirements.
- **High Reliability:** Precious metal commutation reduces electrical noise and delivers consistent, low-wear operation, making it ideal for sensitive environments.
- **Versatile Customization:** Adapt motor characteristics with selectable shaft lengths, special coil windings, different bearing types, and optional gear heads to meet specific design criteria.

Applications:

- Precision drives in medical equipment and devices, where accuracy and reliability are critical
- Healthcare products requiring compact, dependable miniature motion solutions
- Robotic systems for controlled, repeatable actuation
- Industrial automation platforms demanding robust, small-format DC motors

Key Benefits:

- Superior commutation performance for stable electrical characteristics and longevity
- Multiple configuration options simplify integration into specialized assemblies
- Optimized for environments where precision, smooth motion, and extended service life are paramount

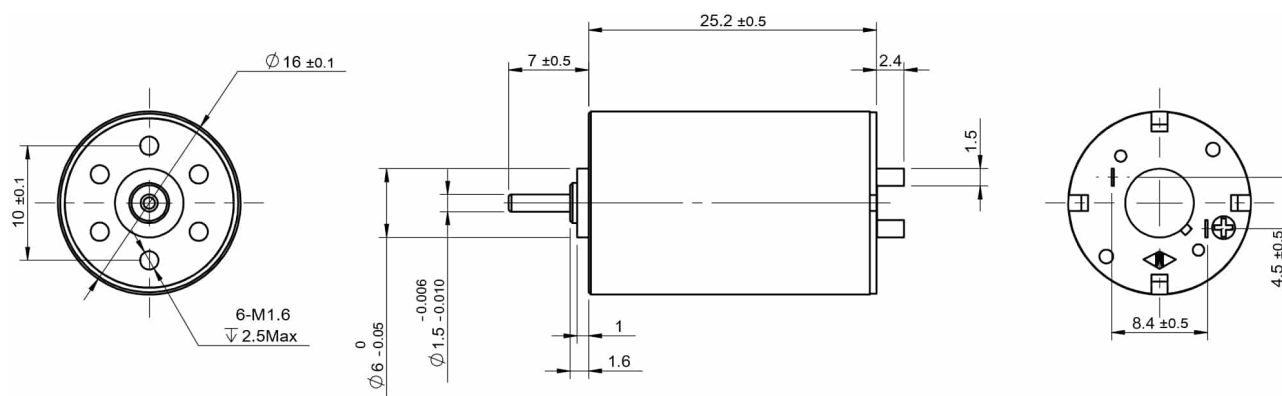


<https://www.kocomotion.de/produkt/1625n9m/>

Characteristics	Unit	1625N9M01-115-3.0	1625N9M02-96-6.0	1625N9M03-115-12.0
Rated voltage	V	3.0	6.0	12.0
Max. output power	W	2	2	2.6
Max. efficiency	%	75	77	78
Back-EMF constant	mV/rpm	0.3	0.6	1
Torque constant	mNm/A	2.4	6.1	9.8
Speed/torque gradient	rpm/mNm	1800	1100	1300
Rotor inertia	gcm ²	0.78	0.78	0.78
Weight	g	22	22	22
Thermal resistance housing-ambient	K/W	24.8	24.8	24.8
Thermal resistance winding-housing	K/W	30.3	30.3	30.3
Thermal time constant motor	s	201	201	201
Terminal resistance	Ω	1.1	4.4	13.4
Thermal time constant winding	s	175	175	175
Operating temperature	°C	-20~+85	-20~+85	-20~+85
Thermal class of winding	°C	130	130	130
Axial play	mm	0.02-0.15	0.02-0.15	0.02-0.15
Radial play	mm	0.014	0.014	0.014
Axial load dynamic	N	0.8	0.8	0.8
Axial load static	N	30	30	30
Radial load at 3 mm from mounting face	N	1.4	1.4	1.4
No. of pole pairs		1	1	1
Bearings		2 sleeve bearings	2 sleeve bearings	2 sleeve bearings
No-load speed	rpm	11500	9200	11500
Commutator		metal 9 segments	metal 9 segments	metal 9 segments
Protection class	IP	30	30	30
Outer diameter	mm	16 +/- 0.1	16 +/- 0.1	16 +/- 0.1
Motor length	mm	25.2 +/- 0.5	25.2 +/- 0.5	25.2 +/- 0.5
Outer diameter	mm	16 +/- 0.1	16 +/- 0.1	16 +/- 0.1
Motor length	mm	25.2 +/- 0.5	25.2 +/- 0.5	25.2 +/- 0.5
No-load current	mA	50	20	12
Stall torque	mNm	6.6	8.2	8.7
Stall current	mA	2730	1360	900

Characteristics	Unit	1625N9M01-115-3.0	1625N9M02-96-6.0	1625N9M03-115-12.0
Nominal torque	mNm	1	1.5	1.5
Nominal speed	rpm	9750	7520	9520
Nominal current	mA	460	260	160

Drawings



16mm Micro Coreless DC Motor

1625N5M2B

The **1625N5M2B** series is a compact 16mm micro DC coreless motor designed for applications demanding precision, efficiency, and low noise. Featuring **precious metal commutation**, this motor provides excellent electrical contact, resulting in high reliability and smooth operation even at low voltages.



- **Precise Commutation:** Precious metal brushes deliver consistent performance and reduced electrical noise.
- **Coreless Construction:** Lightweight design ensures rapid acceleration, low inertia, and high efficiency.
- **Customization:** Available with various shaft lengths, special coil configurations, bearing types, and compatible gear heads to suit specific application requirements.

Applications for the 1625N5M2B series include:

- Precision drives in medical equipment and devices
- Healthcare technology products
- Robotic actuation systems
- Industrial automation solutions

This series is well-suited for motion control tasks where space, weight, and precision are critical. Its customizable options give engineers the flexibility to optimize for speed, torque, and integration constraints, making it a versatile choice for demanding automation and medical environments.

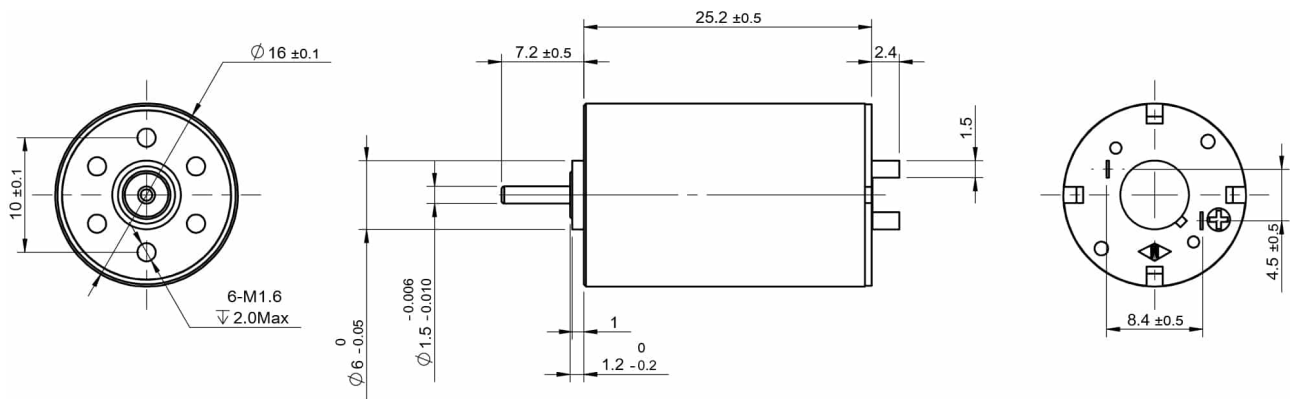


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Motor Specifications	Unit	1625N5M2B47-96-7.5	1625N5M2B65-92-9.0	1625N5M2B66-110-12.0
Rated voltage	V	7.5	9.0	12.0
Max. output power	W	1.15	0.75	0.94
Max. efficiency	%	76	71	71
Back-EMF constant	mV/rpm	0.8	1	1.1
Torque constant	mNm/A	7.3	9.1	10.2
Speed/torque gradient	rpm/mNm	2100	3000	3400
Rotor inertia	gcm ²	0.78	0.78	0.78
Weight	g	19	19	19
Thermal resistance housing-ambient	K/W	24.8	24.8	24.8
Thermal resistance winding-housing	K/W	30.3	30.3	30.3
Thermal time constant motor	s	201	201	201
Terminal resistance	Ω	12	25.5	36
Thermal time constant winding	s	175	175	175
Operating temperature	°C	-20~+85	-20~+85	-20~+85
Thermal class of winding	°C	130	130	130
Axial play	mm	0.02-0.15	0.02-0.15	0.02-0.15
Radial play	mm	0.025	0.025	0.025
Axial load dynamic	N	0.8	0.8	0.8
Axial load static	N	30	30	30
Radial load at 3 mm from mounting face	N	1	1	1
No. of pole pairs		1	1	1
Bearings		2 ball bearings	2 ball bearings	2 ball bearings
No-load speed	rpm	9600	9200	11000
Commutator		metal 5 segments	metal 5 segments	metal 5 segments
Protection class	IP	30	30	30
Outer diameter	mm	16 +/- 0.1	16 +/- 0.1	16 +/- 0.1
Motor length	mm	25.2 +/- 0.5	25.2 +/- 0.5	25.2 +/- 0.5
No-load current	mA	10	9	8
Stall torque	mNm	4.6	3.1	3.3
Stall current	mA	630	350	330
Nominal torque	mNm	1	0.5	0.5
Nominal speed	rpm	7490	7720	9320

Motor Specifications	Unit	1625N5M2B47-96-7.5	1625N5M2B65-92-9.0	1625N5M2B66-110-12.0
Nominal current	mA	150	60	60

Drawings



16mm Coreless DC Micro Motor

1625N5M

1625N5M Micro DC Coreless Motor Series

The 1625N5M series consists of high-performance 16mm coreless DC motors with precious metal commutation, engineered for precision and efficiency in space-constrained environments. The reduced mass of the coreless rotor ensures fast acceleration, minimal cogging, and smooth operation, making this motor family ideal for applications where accuracy and responsiveness are essential.



• Key Features:

- 16mm diameter compact design for tight or portable spaces
- Coreless construction enables low inertia and superior dynamic response
- Precious metal commutation system for low electrical noise and long service life
- Available customization: shaft length, special coils, bearing types, gear heads

• Target Applications:

- Precision drives in medical equipment and devices
- Healthcare products requiring reliable, quiet operation
- Robotics solutions needing precise, responsive motor control
- Industrial automation with high reliability and efficiency requirements

• Benefits:

- High power density in a micro package allows for compact system designs
- Low electrical noise supports sensitive medical and analytic instruments
- Flexible options enable integration into diverse end products

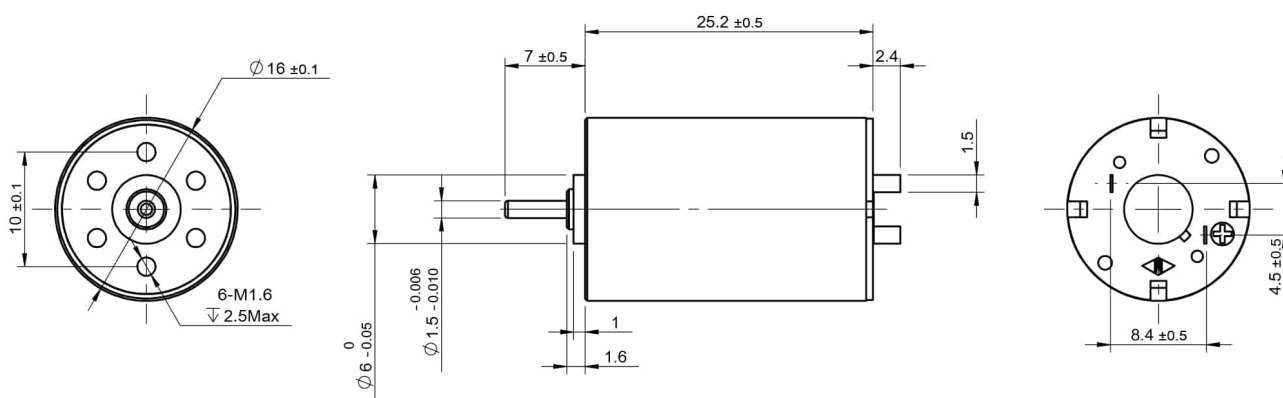
The 1625N5M motor series provides outstanding motion control performance, making it the preferred choice for engineers seeking reliability and precision in small-format devices.


<https://www.kocomotion.de/produkt/1625n5m/>

Motor Characteristics	Unit	1625N5M24-60-3.7	1625N5M56-100-6.0	1625N5M51-145-15.0
Rated voltage	V	3.7	6.0	15.0
Max. output power	W	0.43	1.42	1.17
Max. efficiency	%	71	75	68
Back-EMF constant	mV/rpm	0.6	0.6	1
Torque constant	mNm/A	5.7	5.6	9.6
Speed/torque gradient	rpm/mNm	2200	1800	4700
Rotor inertia	gcm ²	0.78	0.78	0.78
Weight	g	21	21	21
Thermal resistance housing-ambient	K/W	24.8	24.8	24.8
Thermal resistance winding-housing	K/W	30.3	30.3	30.3
Thermal time constant motor	s	201	201	201
Terminal resistance	Ω	7.6	6.1	45
Thermal time constant winding	s	175	175	175
Operating temperature	°C	-20~+85	-20~+85	-20~+85
Thermal class of winding	°C	130	130	130
Axial play	mm	0.02-0.15	0.02-0.15	0.02-0.15
Radial play	mm	0.014	0.014	0.014
Axial load dynamic	N	0.8	0.8	0.8
Axial load static	N	30	30	30
Radial load at 3 mm from mounting face	N	1.4	1.4	1.4
No. of pole pairs		1	1	1
Bearings		2 sleeve bearings	2 sleeve bearings	2 sleeve bearings
No-load speed	rpm	6000	10000	14500
Commutator		metal 5 segments	metal 5 segments	metal 5 segments
Protection class	IP	30	30	30
Outer diameter	mm	16 +/- 0.1	16 +/- 0.1	16 +/- 0.1
Motor length	mm	25.2 +/- 0.5	25.2 +/- 0.5	25.2 +/- 0.5
No-load current	mA	12	18	10
Stall torque	mNm	2.7	5.4	3.1
Stall current	mA	490	980	330
Nominal torque	mNm	0.5	1.0	1.0
Nominal speed	rpm	4910	8150	9770

Motor Characteristics	Unit	1625N5M24-60-3.7	1625N5M56-100-6.0	1625N5M51-145-15.0
Nominal current	mA	100	200	110

Drawings



16mm DC Motor, Double Shaft

1627N5M(1)

The **1627N5M(1) Series** is a high-performance 16mm DC motor family, engineered with a double shaft and precious metal commutation technology. This configuration offers exceptional durability, low electrical noise, and precise commutation, making these motors ideally suited for demanding, space-constrained applications.



- **Core Features:**

- 16mm diameter for compact integration
- Double shaft for versatile coupling or feedback devices
- Precious metal commutation ensures superior electrical contact

- **Customization Options:**

- Shaft length
- Special coil windings
- Bearing type
- Gear head compatibility

- **Primary Applications:**

- Precision drives in medical equipment and devices
- Healthcare products requiring consistent, quiet motion
- Robotics for accurate, miniature actuation
- Industrial automation where reliability is critical

With a robust and adaptable design, the 1627N5M(1) family delivers reliable, efficient performance. Its modular construction and customizable features ensure seamless integration in OEM projects demanding both compact size and application-specific performance. Ideal for engineers seeking precision, longevity, and design flexibility.

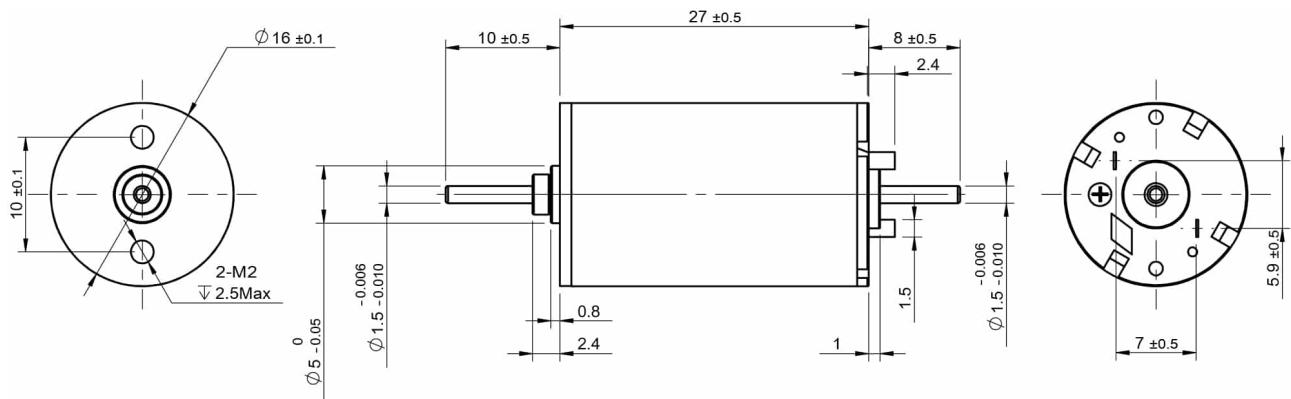


<https://www.kocomotion.de/produkt/1627n5m1/>

Characteristics	Unit	1627N5M36-66-5.0	1627N5M20-113-6.0	1627N5M14-118-12.0
Rated voltage	V	5.0	6.0	12.0
Max. output power	W	1.5	4.9	4
Max. efficiency	%	74	77	77
Back-EMF constant	mV/rpm	0.7	0.5	1.0
Torque constant	mNm/A	7.1	5.0	9.6
Speed/torque gradient	rpm/mNm	800	700	900
Rotor inertia	gcm ²	0.6	0.6	0.6
Weight	g	23	23	23
Thermal resistance housing-ambient	K/W	24.9	24.9	24.9
Thermal resistance winding-housing	K/W	29.4	29.4	29.4
Thermal time constant motor	s	228	228	228
Terminal resistance	Ω	4.0	1.8	8.7
Thermal time constant winding	s	176	176	176
Operating temperature	°C	-20~+85	-20~+85	-20~+85
Thermal class of winding	°C	130	130	130
Axial play	mm	0.02-0.15	0.02-0.15	0.02-0.15
Radial play	mm	0.014	0.014	0.014
Axial load dynamic	N	0.8	0.8	0.8
Axial load static	N	30	30	30
Radial load at 3 mm from mounting face	N	1.4	1.4	1.4
No. of pole pairs		1	1	1
Bearings		2 sleeve bearings	2 sleeve bearings	2 sleeve bearings
No-load speed	rpm	6600	11300	11800
Commutator		metal 5 segments	metal 5 segments	metal 5 segments
Protection class	IP	30	30	30
Outer diameter	mm	16 +/- 0.1	16 +/- 0.1	16 +/- 0.1
Motor length	mm	27 +/- 0.5	27 +/- 0.5	27 +/- 0.5
No-load current	mA	25	50	20
Stall torque	mNm	8.7	16.4	13
Stall current	mA	1250	3330	1380
Nominal torque	mNm	2	4	3
Nominal speed	rpm	5080	8540	9080

Characteristics	Unit	1627N5M36-66-5.0	1627N5M20-113-6.0	1627N5M14-118-12.0
Nominal current	mA	310	850	330

Drawings



16mm Precious Metal Commutated DC Motors

1627N5M(2)

The **1627N5M(2) 16mm DC motor series** is engineered to deliver compact, high-precision motion control for demanding industrial and medical environments. Utilizing **precious metal commutation**, these motors provide superior electrical contact and minimize wear, ensuring quiet operation and long service life—critical for sensitive or continuous-run applications.



- **Key Features:**

- 16mm diameter compact form factor
- Precious metal commutation for reduced friction and low electrical noise
- Selectable models including 1627N5M27-66-6.0, 1627N5M21-113-12.0, and 1627N5M16-85-24.0
- Wide range of customizable options: shaft lengths, bearing types, gear heads, and specialized coil designs

- **Application Areas:**

- Precision drives in medical equipment and devices
- Healthcare technology and laboratory apparatus
- Robotics and compact automation platforms
- Industrial automation where reliability and fine control are vital

- **Benefits:**

- Enhanced operational reliability and long lifespan
- Customization for seamless integration into specialized systems
- Low-noise characteristics for noise-sensitive environments

With robust build quality and a focus on precision, the 1627N5M(2) motors are a top choice for OEMs and system integrators seeking durable, customizable motion solutions for advanced automation, medical instrumentation, and intelligent robotics.

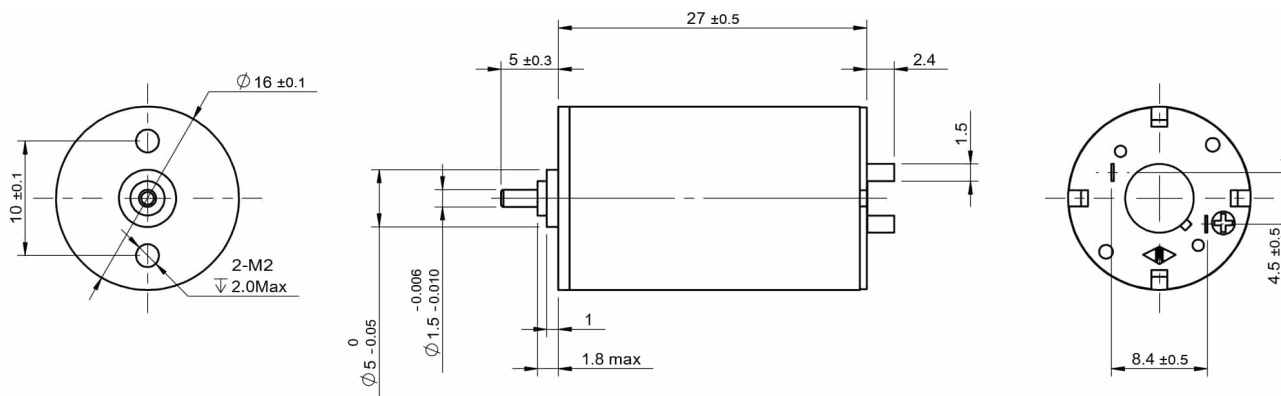


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Characteristics	Unit	1627N5M27-66-6.0	1627N5M21-113-12.0	1627N5M16-85-24.0
Rated voltage	V	6.0	12.0	24.0
Outer diameter	mm	16 +/- 0.1	16 +/- 0.1	16 +/- 0.1
Motor length	mm	27 +/- 0.5	27 +/- 0.5	27 +/- 0.5
Outer diameter	mm	16 +/- 0.1	16 +/- 0.1	16 +/- 0.1
Motor length	mm	27 +/- 0.5	27 +/- 0.5	27 +/- 0.5
Outer diameter	mm	16 +/- 0.1	16 +/- 0.1	16 +/- 0.1
Motor length	mm	27 +/- 0.5	27 +/- 0.5	27 +/- 0.5
Terminal resistance	Ω	8.2	11.8	72
No-load speed	rpm	6600	11300	7500
No-load current	mA	11	13	6
Stall torque	mNm	6.1	10.1	9.7
Stall current	mA	730	1020	330
Nominal torque	mNm	1	1.5	1.5
Nominal speed	rpm	5530	9620	6340
Nominal current	mA	130	160	60
Max. output power	W	1.1	3	1.9
Max. efficiency	%	77	79	75
Back-EMF constant	mV/rpm	0.9	1	3.1
Torque constant	mNm/A	8.6	10	30
Speed/torque gradient	rpm/mNm	1100	1100	800
Rotor inertia	gcm ²	0.7	0.7	0.7
Weight	g	25	25	25
Thermal resistance housing-ambient	K/W	24.9	24.9	24.9
Thermal resistance winding-housing	K/W	19.4	19.4	19.4
Thermal time constant motor	s	228	228	228
Thermal time constant winding	s	176	176	176
Operating temperature	°C	-20~+85	-20~+85	-20~+85
Thermal class of winding	°C	130	130	130
Axial play	mm	0.02-0.15	0.02-0.15	0.02-0.15
Radial play	mm	0.014	0.014	0.014
Axial load dynamic	N	0.8	0.8	0.8
Axial load static	N	30	30	30

Characteristics	Unit	1627N5M27-66-6.0	1627N5M21-113-12.0	1627N5M16-85-24.0
Radial load at 3 mm from mounting face	N	1.4	1.4	1.4
No. of pole pairs		1	1	1
Bearings		2 sleeve bearings	2 sleeve bearings	2 sleeve bearings
Commutator		metal 5 segments	metal 5 segments	metal 5 segments
Protection class	IP	30	30	30

Drawings



16mm Coreless DC Motor, Graphite Brushes

1630N5C

1630N5C 16mm Graphite Brush Coreless DC Motor Series

The 1630N5C series delivers high-performance motion control in a compact 16mm package, leveraging advanced coreless technology and durable graphite brushes. These motors are engineered for demanding applications that require low inertia, rapid response, and long service life.



• Key Technical Features:

- Coreless rotor design for exceptionally smooth and efficient operation
- Graphite brushes offer extended lifetime and reliable electrical contact
- Strong performance in continuous and dynamic applications
- Available options: shaft length, special coils, bearing types, gear heads

• Target Applications:

- Precision drives in medical equipment and devices
- Healthcare products
- Robotics and automation systems
- Industrial automation platforms

• Benefits:

- Compact diameter for tight installation spaces
- High efficiency and low electromagnetic interference
- Customizable configurations to suit specific project needs
- Proven reliability in mission-critical precision drive systems

This series is suitable for engineers and designers seeking robust, high-precision solutions within compact assemblies, ensuring optimal performance across a wide range of industrial and medical applications.

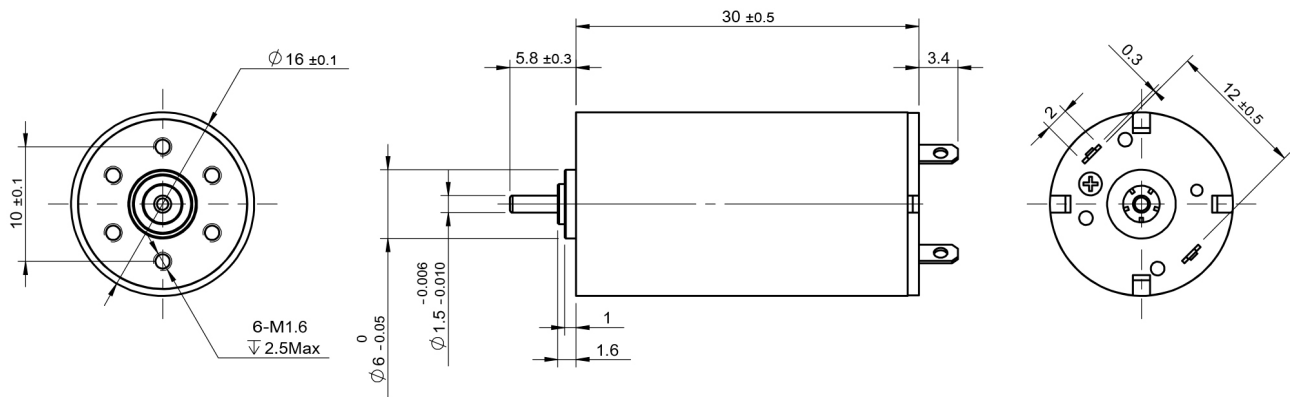


<https://www.kocomotion.de/produkt/1630n5c/>

Motor Specifications	Unit	1630N5C09-115-12.0	1630N5C07-140-24.0	1630N5C11-86-24.0
Rated voltage	V	12.0	24.0	24.0
Max. output power	W	6.1	9.9	3.5
Max. efficiency	%	72	75	68
Back-EMF constant	mV/rpm	1	1.7	2.7
Torque constant	mNm/A	9.7	16.1	25.8
Speed/torque gradient	rpm/mNm	600	500	500
Rotor inertia	gcm ²	0.95	0.95	0.95
Weight	g	25	25	25
Thermal resistance housing-ambient	K/W	26.8	26.8	26.8
Thermal resistance winding-housing	K/W	30.6	30.6	30.6
Thermal time constant motor	s	242	242	242
Terminal resistance	Ω	5.6	14	38.3
Thermal time constant winding	s	232	232	232
Operating temperature	°C	-20~+85	-20~+85	-20~+85
Thermal class of winding	°C	130	130	130
Axial play	mm	0.02-0.15	0.02-0.15	0.02-0.15
Radial play	mm	0.014	0.014	0.014
Axial load dynamic	N	0.8	0.8	0.8
Axial load static	N	30	30	30
Radial load at 3 mm from mounting face	N	1.4	1.4	1.4
No. of pole pairs		1	1	1
Bearings		2 sleeve bearings	2 sleeve bearings	2 sleeve bearings
No-load speed	rpm	11500	14000	8600
Commutator		graphite 5 segments	graphite 5 segments	graphite 5 segments
Protection class	IP	30	30	30
Outer diameter	mm	16 +/- 0.1	16 +/- 0.1	16 +/- 0.1
Motor length	mm	30 +/- 0.5	30 +/- 0.5	30 +/- 0.5
No-load current	mA	50	30	20
Stall torque	mNm	20.3	27	15.7
Stall current	mA	2140	1710	630
Nominal torque	mNm	4	5	4
Nominal speed	rpm	9240	11410	6410

Motor Specifications	Unit	1630N5C09-115-12.0	1630N5C07-140-24.0	1630N5C11-86-24.0
Nominal current	mA	460	340	180

Drawings



16mm Precious Metal Brush DC Motor

1630N5M

1630N5M Series – 16mm Precious Metal Brush DC Motors

Engineered for demanding motion control applications, the 1630N5M series integrates **precious metal commutation** technology with a compact 16mm diameter, ensuring high reliability and low electrical noise. These DC motors are designed to deliver smooth, precise performance in space-constrained environments.



• Key Features:

- Precious metal brush commutation for extended operational life
- Available in multiple configurations including different voltages and lengths
- Low electrical noise and stable speed regulation
- Optimized for compact assemblies and precise positioning

• Applications:

- Precision drives in medical equipment and devices
- Healthcare products requiring compact, reliable actuators
- Robotics requiring smooth, accurate motion control
- Industrial automation systems and assemblies

• Available Options:

- Custom shaft lengths
- Special coil windings
- Various bearing types
- Compatible gear heads

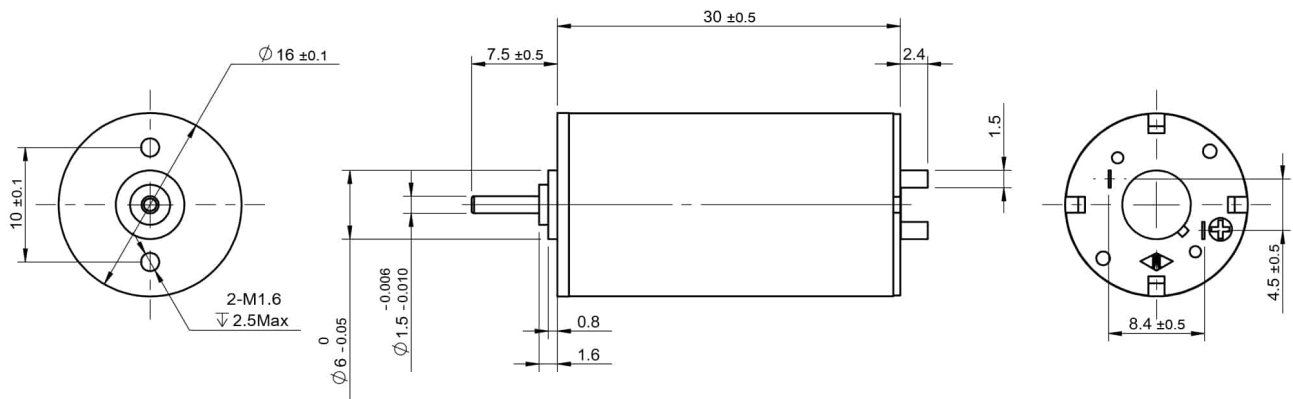
The 1630N5M series delivers robust and efficient solutions for engineers and OEMs who require high-performance micro motors for mission-critical applications.


<https://www.kocomotion.de/produkt/1630n5m/>

Characteristics	Unit	1630N5M39-65-5.0	1630N5M29-78-7.4	1630N5M36-87-12.0
Rated voltage	V	5.0	7.4	12.0
Max. output power	W	1.1	2.3	3.8
Max. efficiency	%	76	79	86
Back-EMF constant	mV/rpm	0.8	0.9	1.4
Torque constant	mNm/A	7.2	9.0	13.1
Speed/torque gradient	rpm/mNm	1000	700	500
Rotor inertia	gcm ²	0.6	0.6	0.6
Weight	g	26	26	26
Thermal resistance housing-ambient	K/W	26.8	26.8	26.8
Thermal resistance winding-housing	K/W	3.8	3.8	3.8
Thermal time constant motor	s	242	242	242
Terminal resistance	Ω	5.7	5.9	9.4
Thermal time constant winding	s	232	232	232
Operating temperature	°C	-20~+85	-20~+85	-20~+85
Thermal class of winding	°C	130	130	130
Axial play	mm	0.02-0.15	0.02-0.15	0.02-0.15
Radial play	mm	0.014	0.014	0.014
Axial load dynamic	N	0.8	0.8	0.8
Axial load static	N	30	30	30
Radial load at 3 mm from mounting face	N	1.4	1.4	1.4
No. of pole pairs		1	1	1
Bearings		2 sleeve bearings	2 sleeve bearings	2 sleeve bearings
No-load speed	rpm	6500	7800	8700
Commutator		metal 5 segments	metal 5 segments	metal 5 segments
Protection class	IP	30	30	30
Outer diameter	mm	16 +/- 0.1	16 +/- 0.1	16 +/- 0.1
Motor length	mm	30 +/- 0.5	30 +/- 0.5	30 +/- 0.5
No-load current	mA	15	15	7
Stall torque	mNm	6.2	11.1	16.7
Stall current	mA	880	1250	1280
Nominal torque	mNm	1	2.5	4.0
Nominal speed	rpm	5460	6040	6610

Characteristics	Unit	1630N5M39-65-5.0	1630N5M29-78-7.4	1630N5M36-87-12.0
Nominal current	mA	150	290	310

Drawings



16mm Coreless DC Micro Motor

1630N5M2B

1630N5M2B Micro DC Coreless Motor Series

Designed for environments requiring uncompromising precision, the 1630N5M2B is a 16mm micro coreless DC motor featuring **precious metal commutation** for ultra-reliable, low-noise operation. The coreless rotor ensures rapid acceleration and efficient performance, making this motor an exceptional choice where compact size and high responsiveness are critical.

• Key Features:

- 16mm diameter micro DC coreless design
- Precious metal commutation for enhanced contact reliability and extended lifespan
- Low inertia for fast dynamic response
- Customizable with options including shaft lengths, special coils, gear heads, and bearing types

• Typical Applications:

- Precision drives in medical equipment and devices
- Healthcare product actuation
- Robotics for actuators and grippers
- Industrial automation tasks requiring compact, high-efficiency motors

Benefits include high efficiency, smooth operation, and exceptional adaptability for integration into space-constrained assemblies or sophisticated electromechanical systems. The 1630N5M2B series provides configurable options to meet unique application requirements, supporting advanced engineering and development in demanding industrial sectors.



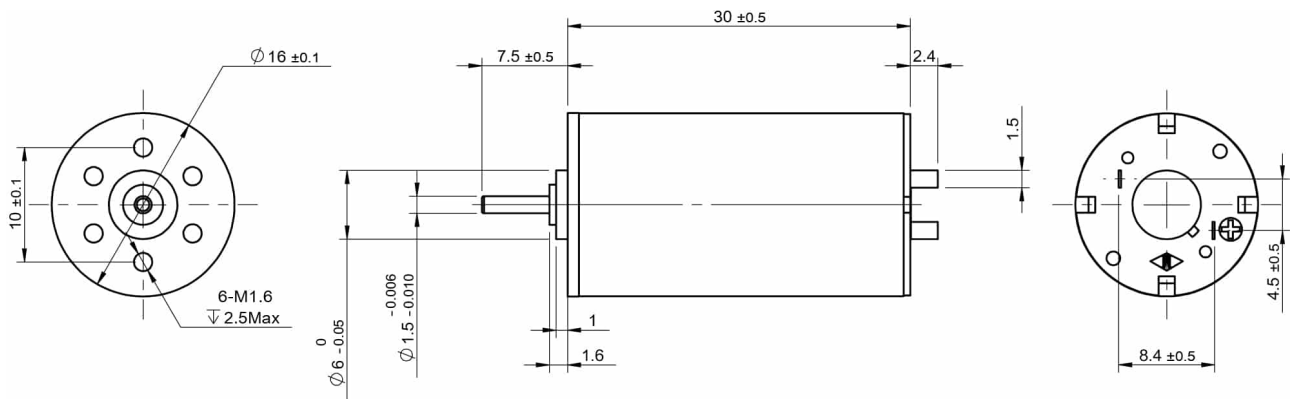
<https://www.kocomotion.de/produkt/1630n5m2b/>



Motor Specifications	Unit	1630N5M2B40-67-6.0	1630N5M2B41-85-9.0	1630N5M2B42-96-12.0
Rated voltage	V	6.0	9.0	12.0
Max. output power	W	1.6	2.5	3.1
Max. efficiency	%	84	84	83
Back-EMF constant	mV/rpm	0.9	1.1	1.2
Torque constant	mNm/A	8.5	10	11.8
Speed/torque gradient	rpm/mNm	700	700	800
Rotor inertia	gcm ²	0.6	0.6	0.6
Weight	g	26	26	26
Thermal resistance housing-ambient	K/W	26.8	26.8	26.8
Thermal resistance winding-housing	K/W	3.8	3.8	3.8
Thermal time constant motor	s	242	242	242
Terminal resistance	Ω	5.6	7.9	11.5
Thermal time constant winding	s	232	232	232
Operating temperature	°C	-20~+85	-20~+85	-20~+85
Thermal class of winding	°C	130	130	130
Axial play	mm	0.02-0.15	0.02-0.15	0.02-0.15
Radial play	mm	0.025	0.025	0.025
Axial load dynamic	N	0.8	0.8	0.8
Axial load static	N	30	30	30
Radial load at 3 mm from mounting face	N	1	1	1
No. of pole pairs		1	1	1
Bearings		2 ball bearings	2 ball bearings	2 ball bearings
No-load speed	rpm	6700	8500	9600
Commutator		metal 5 segments	metal 5 segments	metal 5 segments
Protection class	IP	30	30	30
Outer diameter	mm	16 +/- 0.1	16 +/- 0.1	16 +/- 0.1
Motor length	mm	30 +/- 0.5	30 +/- 0.5	30 +/- 0.5
No-load current	mA	8	8	8
Stall torque	mNm	9	11.4	12.2
Stall current	mA	1070	1140	1040
Nominal torque	mNm	1	2	3
Nominal speed	rpm	5960	7000	7240

Motor Specifications	Unit	1630N5M2B40-67-6.0	1630N5M2B41-85-9.0	1630N5M2B42-96-12.0
Nominal current	mA	130	210	260

Drawings



16mm Micro Coreless DC Motor

1635N9M

The **1635N9M series** represents a high-performance 16mm micro DC coreless motor engineered for demanding precision applications. Featuring advanced precious metal commutation, these motors deliver exceptionally smooth rotation, minimized electrical noise, and long operational life—essential for critical systems where reliability is paramount.



- **Compact 16mm Form Factor:** Enables easy integration into space-constrained assemblies without compromising power or efficiency.
- **Precious Metal Commutation:** Provides stable electrical contact, reduced maintenance requirements, and superior operational consistency—ideal for sensitive medical and healthcare devices.
- **Customizable Options:** Available with a wide range of shaft lengths, special coil windings, alternative bearing types, and compatible gear heads to precisely match project requirements.

These micro coreless motors are extensively used in:

- Precision drives in medical equipment and diagnostic devices
- Healthcare products requiring quiet, compact, and reliable motion
- Robotics applications emphasizing agility and energy efficiency
- Industrial automation systems where durability and accuracy are critical

1635N9M motors offer a blend of high torque density, robust construction, and versatile adaptation—making them a superior choice for engineers focused on advanced motion control solutions in challenging environments.

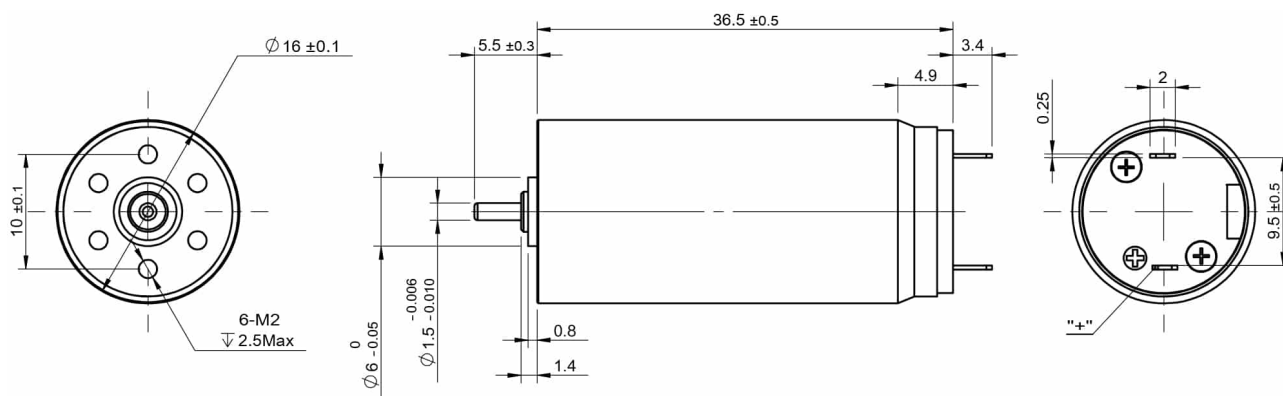


<https://www.kocomotion.de/produkt/1635n9m/>

Motor Specifications	Unit	1635N9M02-77-12.0	1635N9M01-137-24.0	1635N9M04-130-24.0
Rated voltage	V	12.0	24.0	24.0
Max. output power	W	4.4	12.9	10.6
Max. efficiency	%	83	84	84
Back-EMF constant	mV/rpm	1.5	1.7	1.8
Torque constant	mNm/A	14.8	16.6	17.5
Speed/torque gradient	rpm/mNm	400	400	400
Rotor inertia	gcm ²	0.8	0.8	0.8
Weight	g	33	33	33
Thermal resistance housing-ambient	K/W	22.6	22.6	22.6
Thermal resistance winding-housing	K/W	5	5	5
Thermal time constant motor	s	255	255	255
Terminal resistance	Ω	8.1	11	13.4
Thermal time constant winding	s	212	212	212
Operating temperature	°C	-20~+85	-20~+85	-20~+85
Thermal class of winding	°C	130	130	130
Axial play	mm	0.02-0.15	0.02-0.15	0.02-0.15
Radial play	mm	0.014	0.014	0.014
Axial load dynamic	N	0.8	0.8	0.8
Axial load static	N	30	30	30
Radial load at 3 mm from mounting face	N	1.4	1.4	1.4
No. of pole pairs		1	1	1
Bearings		2 Sleeve bearings	2 Sleeve bearings	2 Sleeve bearings
No-load speed	rpm	7700	13700	13000
Commutator		metal 9 segments	metal 9 segments	metal 9 segments
Protection class	IP	30	30	30
Outer diameter	mm	16 +/- 0.1	16 +/- 0.1	16 +/- 0.1
Motor length	mm	36.5 +/- 0.5	36.5 +/- 0.5	36.5 +/- 0.5
No-load current	mA	12	15	12
Stall torque	mNm	21.7	36	31.1
Stall current	mA	1480	2180	1790
Nominal torque	mNm	5	6	6
Nominal speed	rpm	5920	11410	10490

Motor Specifications	Unit	1635N9M02-77-12.0	1635N9M01-137-24.0	1635N9M04-130-24.0
Nominal current	mA	350	380	350

Drawings



19mm Micro DC Coreless Motors

1925N9M

The **1925N9M series** offers high-performance 19mm micro DC coreless motors engineered for precision motion applications. Utilizing precious metal commutation, these motors provide exceptionally smooth operation, low electrical noise, and extended service life—key requirements for demanding environments.



- **Compact 19mm diameter:** Enables easy integration into space-constrained designs.
- **Coreless construction:** Reduces cogging for precise, vibration-free motion and improved efficiency.
- **Precious metal commutation:** Ensures low friction, high reliability, and minimal maintenance over the motor's lifetime.
- **Customizable options:** Shaft length, special coils, bearing types, and gear heads allow tailored solutions for specific application requirements.

Applications: The 1925N9M series is ideally suited for precision drives in medical equipment and devices, advanced healthcare products, robotics systems, and industrial automation tasks requiring accuracy and compactness.

- Precise actuation in infusion pumps, surgical tools, and diagnostic equipment
- Drive mechanisms in compact robotic actuators and grippers
- Automation tasks in limited-space industrial assemblies

With its proven reliability and flexibility, the 1925N9M motor family is a compelling choice for OEMs seeking robust, adaptable motion solutions in high-precision environments.

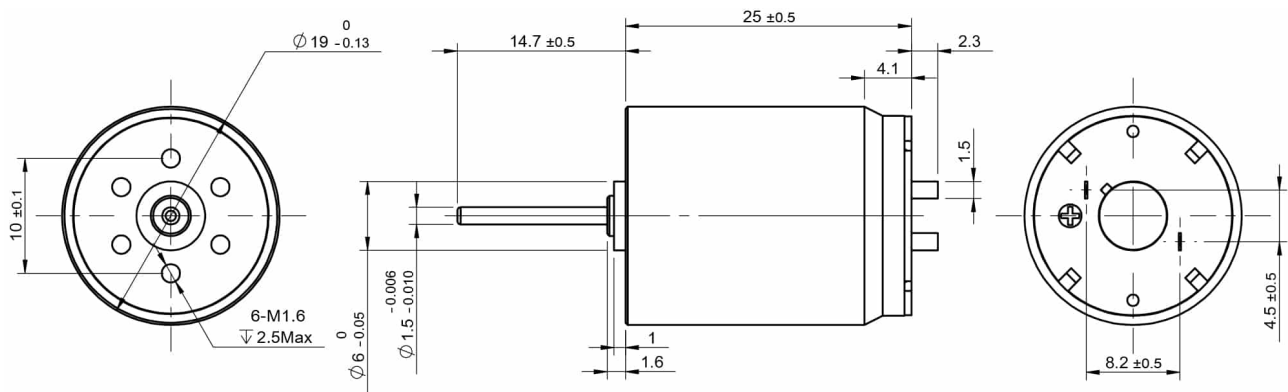


<https://www.kocomotion.de/produkt/1925n9m/>

Characteristics	Unit	1925N9M01-69-6.0	1925N9M02-80-12.0	1925N9M03-85-24.0
Rated voltage	V	6.0	12.0	24.0
Max. output power	W	3.1	3.7	5
Max. efficiency	%	80	79	81
Back-EMF constant	mV/rpm	0.9	1.5	2.8
Torque constant	mNm/A	8.2	14.2	26.7
Speed/torque gradient	rpm/mNm	400	500	400
Rotor inertia	gcm ²	0.6	0.6	0.6
Weight	g	32	32	32
Thermal resistance housing-ambient	K/W	22.4	22.4	22.4
Thermal resistance winding-housing	K/W	3.8	3.8	3.8
Thermal time constant motor	s	267	267	267
Terminal resistance	Ω	2.8	9.6	28.3
Thermal time constant winding	s	232	232	232
Operating temperature	°C	-20~+85	-20~+85	-20~+85
Thermal class of winding	°C	130	130	130
Axial play	mm	0.02-0.15	0.02-0.15	0.02-0.15
Radial play	mm	0.014	0.014	0.014
Axial load dynamic	N	0.8	0.8	0.8
Axial load static	N	30	30	30
Radial load at 3 mm from mounting face	N	1.4	1.4	1.4
No. of pole pairs		1	1	1
Bearings		2 sleeve bearings	2 sleeve bearings	2 sleeve bearings
No-load speed	rpm	6900	8000	8500
Commutator		metal 9 segments	metal 9 segments	metal 9 segments
Protection class	IP	30	30	30
Outer diameter	mm	19 +/- 0.13	19 +/- 0.13	19 +/- 0.13
Motor length	mm	25 +/- 0.5	25 +/- 0.5	25 +/- 0.5
No-load current	mA	25	15	9
Stall torque	mNm	17.4	17.5	22.4
Stall current	mA	2140	1250	850
Nominal torque	mNm	4	4	4
Nominal speed	rpm	5310	6170	6980

Characteristics	Unit	1925N9M01-69-6.0	1925N9M02-80-12.0	1925N9M03-85-24.0
Nominal current	mA	510	300	160

Drawings



22mm Coreless DC Motor, Precious Metal Commutation

2224N5M

The 2224N5M series is a compact 22mm coreless DC motor designed for demanding applications that require high precision, outstanding efficiency, and compact dimensions. Utilizing **precious metal commutation**, this motor delivers minimal electrical noise, excellent response characteristics, and long operational life, making it suitable for sensitive and long-duty-cycle environments.



- **Key Technical Features:**

- Coreless rotor design for ultra-smooth, low-inertia operation
- High efficiency and low electrical noise via precious metal commutation
- Versatile adaptation with available shaft lengths, coil customization, bearing options, and gear heads
- 22mm diameter form factor for space-constrained installations

- **Main Applications:**

- Precision drives in medical equipment and devices
- Healthcare products requiring reliable, quiet operation
- Robotics for repeatable, accurate motion control
- Industrial automation, where compact, high-performance drives are essential

- **Benefits:**

- Reduces overall system size and weight while maintaining robust performance
- Customizable for project-specific mechanical or electrical requirements
- Exceptional reliability and service life in precision environments

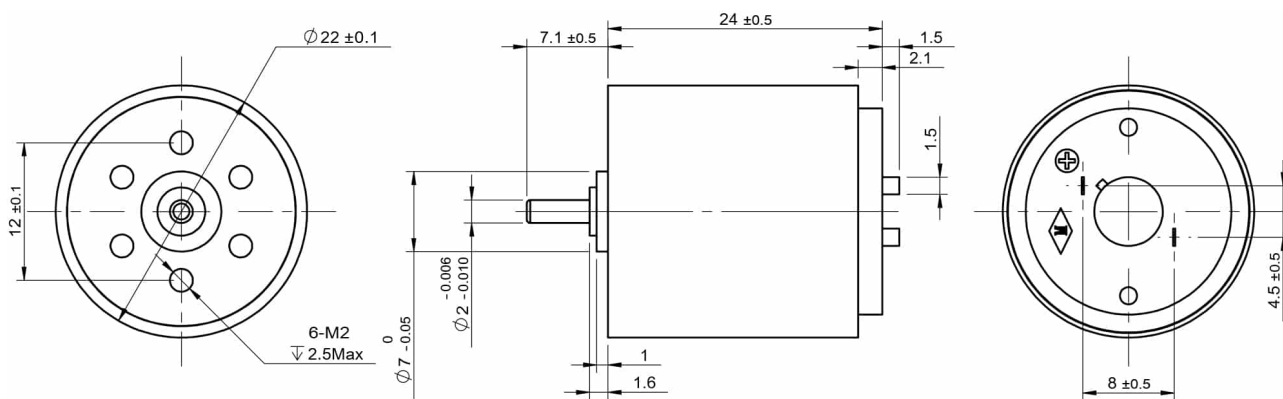


<https://www.kocomotion.de/produkt/2224n5m/>

Characteristics	Unit	2224N5M11-105-6.0	2224N5M09-158-12.0	2224N5M12-112-12.0
Rated voltage	V	6.0	12.0	12.0
Max. output power	W	6.8	17.7	5.9
Max. efficiency	%	79	82	77
Back-EMF constant	mV/rpm	0.6	0.8	1.1
Torque constant	mNm/A	5.4	7.2	10.1
Speed/torque gradient	rpm/mNm	400	400	600
Rotor inertia	gcm ²	2.4	2.4	2.4
Weight	g	40	40	40
Thermal resistance housing-ambient	K/W	22.3	22.3	22.3
Thermal resistance winding-housing	K/W	6.1	6.1	6.1
Thermal time constant motor	s	313	313	313
Terminal resistance	Ω	1.3	2	5.9
Thermal time constant winding	s	218	218	218
Operating temperature	°C	-20~+85	-20~+85	-20~+85
Thermal class of winding	°C	130	130	130
Axial play	mm	0.02-0.15	0.02-0.15	0.02-0.15
Radial play	mm	0.014	0.014	0.014
Axial load dynamic	N	2	2	2
Axial load static	N	60	60	60
Radial load at 3 mm from mounting face	N	2	2	2
No. of pole pairs		1	1	1
Bearings		2 sleeve bearings	2 sleeve bearings	2 sleeve bearings
No-load speed	rpm	10500	15800	11200
Commutator		metal 5 segments	metal 5 segments	metal 5 segments
Protection class	IP	30	30	30
Outer diameter	mm	22 +/- 0.1	22 +/- 0.1	22 +/- 0.1
Motor length	mm	24 +/- 0.5	24 +/- 0.5	24 +/- 0.5
No-load current	mA	60	55	30
Stall torque	mNm	24.6	42.7	20.2
Stall current	mA	4620	6000	2030
Nominal torque	mNm	5	5	4
Nominal speed	rpm	8360	13950	8980

Characteristics	Unit	2224N5M11-105-6.0	2224N5M09-158-12.0	2224N5M12-112-12.0
Nominal current	mA	990	750	430

Drawings



22mm Coreless DC Micro Motor

2224N5M2B

2224N5M2B Series - 22mm Micro DC Coreless Motor

The 2224N5M2B family delivers high performance in a compact 22mm form factor, leveraging coreless technology with **precious metal commutation** for precise, reliable motion control. These micro motors are engineered for demanding applications requiring high efficiency, smooth operation, and extended service life.



- **Coreless DC Motor Construction:** Lightweight rotor design enables low inertia and fast dynamic response, minimizing cogging for superior positioning accuracy.
- **Precious Metal Commutation:** Ensures low electrical noise and dependable contact for sensitive environments.
- **Customizable Options:** Available with tailored shaft lengths, bearing types, gear heads, and special coil windings to meet specific application needs.

Key Applications:

- Precision drives in medical equipment and devices
- Healthcare product actuation
- Robotics—micro actuators and precise movement modules
- Industrial automation requiring compact, high-efficiency motors

With its high degree of customization and robust performance, the 2224N5M2B series is the ideal solution for OEMs and system integrators seeking advanced motion control in compact footprints. The versatile design supports demanding environments where reliability, efficiency, and precision are critical.

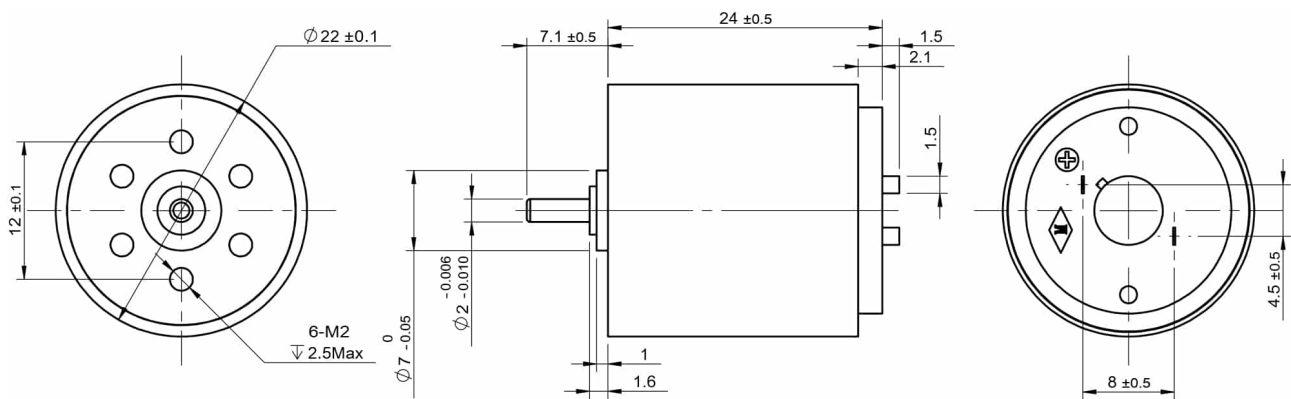


<https://www.kocomotion.de/produkt/2224n5m2b/>

Motor Specifications	Unit	2224N5M2B16-64- 6.0	2224N5M2B18-83- 12.0	2224N5M2B19-82- 18.0
Rated voltage	V	6.0	12.0	18.0
Max. output power	W	1.3	5.2	4.1
Max. efficiency	%	80	82	80
Back-EMF constant	mV/rpm	0.9	1.4	2.2
Torque constant	mNm/A	8.9	13.7	20.7
Speed/torque gradient	rpm/mNm	800	300	400
Rotor inertia	gcm ²	2.4	2.4	2.4
Weight	g	40	40	40
Thermal resistance housing-ambient	K/W	22.3	22.3	22.3
Thermal resistance winding-housing	K/W	6.1	6.1	6.1
Thermal time constant motor	s	313	313	313
Terminal resistance	Ω	6.8	6.8	19.6
Thermal time constant winding	s	218	218	218
Operating temperature	°C	-20~+85	-20~+85	-20~+85
Thermal class of winding	°C	130	130	130
Axial play	mm	0.02-0.15	0.02-0.15	0.02-0.15
Radial play	mm	0.025	0.025	0.025
Axial load dynamic	N	2	2	2
Axial load static	N	60	60	60
Radial load at 3 mm from mounting face	N	2	2	2
No. of pole pairs		1	1	1
Bearings		2 ball bearings	2 ball bearings	2 ball bearings
No-load speed	rpm	6400	8300	8200
Commutator		metal 5 segments	metal 5 segments	metal 5 segments
Protection class	IP	30	30	30
Outer diameter	mm	22 +/- 0.1	22 +/- 0.1	22 +/- 0.1
Motor length	mm	24 +/- 0.5	24 +/- 0.5	24 +/- 0.5
No-load current	mA	10	15	10
Stall torque	mNm	7.7	23.9	18.9
Stall current	mA	880	1760	920
Nominal torque	mNm	1.5	5	4

Motor Specifications	Unit	2224N5M2B16-64-6.0	2224N5M2B18-83-12.0	2224N5M2B19-82-18.0
Nominal speed	rpm	5150	6560	6460
Nominal current	mA	180	380	200

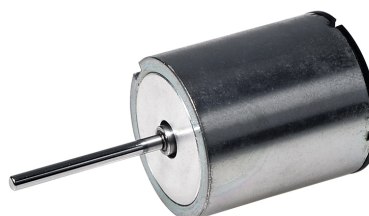
Drawings



22mm Coreless DC Micro Motor

2225N5M

The **2225N5M 22mm Micro DC Coreless Motor** is engineered to meet the rigorous demands of precision applications across medical technology, healthcare products, robotics, and industrial automation. Utilizing advanced precious metal commutation, this motor delivers superior electrical performance, minimized wear, and enhanced operational life—making it an ideal solution for sophisticated drive systems.



• Key Features:

- 22mm diameter, compact coreless design for lightweight integration
- Precious metal commutation ensuring low contact resistance and high reliability
- Options for shaft length, special coils, bearing types, and gear heads for tailored performance

• Applications:

- Precision drives in medical equipment and devices
- Healthcare products requiring compact and durable actuation
- Robotics platforms demanding efficient and responsive motion
- Industrial automation systems focused on accuracy and reliability

• Benefits:

- High energy efficiency and reduced maintenance requirements
- Customizable configurations to match specific application parameters
- Trusted performance for continuous or intermittent duty cycles

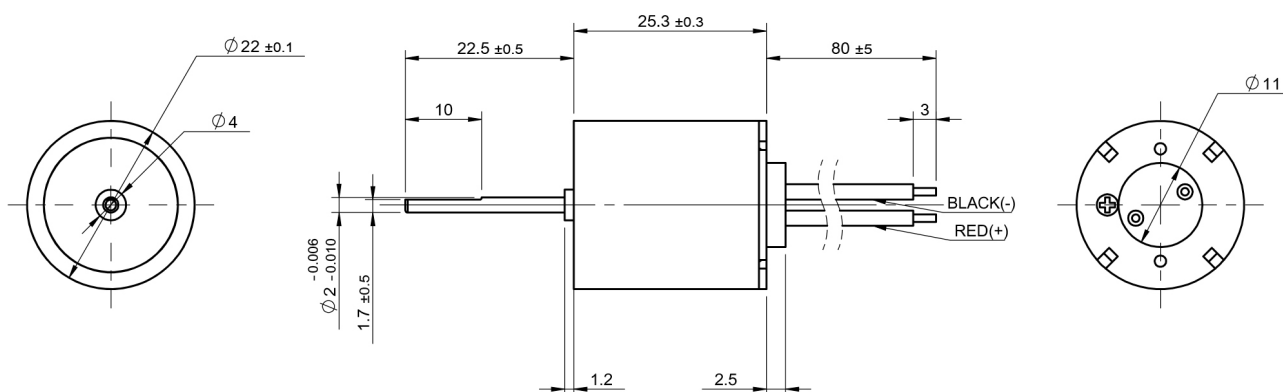
The 2225N5M series empowers engineers to achieve precision, efficiency, and flexibility in their motion control designs.


<https://www.kocomotion.de/produkt/2225n5m/>

Motor Specifications	Unit	2225N5M01-161-7.2	2225N5M02-118-12.0
Rated voltage	V	7.2	12.0
Max. output power	W	6.1	4.4
Max. efficiency	%	59	68
Back-EMF constant	mV/rpm	0.4	1
Torque constant	mNm/A	4	9.5
Speed/torque gradient	rpm/mNm	1100	800
Rotor inertia	gcm ²	2.3	2.3
Weight	g	43	43
Thermal resistance housing-ambient	K/W	22.3	22.3
Thermal resistance winding-housing	K/W	28.4	28.4
Thermal time constant motor	s	313	313
Terminal resistance	Ω	1.9	7.8
Thermal time constant winding	s	218	218
Operating temperature	°C	-20~+85	-20~+85
Thermal class of winding	°C	130	130
Axial play	mm	0.02-0.15	0.02-0.15
Radial play	mm	0.014	0.014
Axial load dynamic	N	2	2
Axial load static	N	150	150
Radial load at 3 mm from mounting face	N	4	4
No. of pole pairs		1	1
Bearings		2 sleeve bearings	2 sleeve bearings
No-load speed	rpm	16100	11800
Commutator		metal 5 segments	metal 5 segments
Protection class	IP	40	40
Outer diameter	mm	22 +/- 0.1	22 +/- 0.1
Motor length	mm	25.3 +/- 0.3	25.3 +/- 0.3
No-load current	mA	200	50
Stall torque	mNm	14.5	14.2
Stall current	mA	3790	1540
Nominal torque	mNm	3	3
Nominal speed	rpm	12770	9310

Motor Specifications	Unit	2225N5M01-161-7.2	2225N5M02-118-12.0
Nominal current	mA	940	360

Drawings



22mm Micro Coreless DC Motor

2232N5M

2232N5M Series: 22mm Micro DC Coreless Motor

The 2232N5M family offers advanced 22mm micro DC coreless motors designed with precious metal commutation, delivering low electrical noise and exceptional control for demanding applications. These motors are engineered to provide high efficiency, rapid response, and extended service life in space-constrained environments.



- **Compact Coreless Design** – Lightweight and optimized for smooth, low-resistance motion.
- **Precious Metal Commutation** – Ensures accurate control, minimizes electrical noise, and enhances reliability for sensitive equipment.
- **Versatile Options** – Configurable with multiple shaft lengths, special winding coils, bearing types, and gear head attachments to suit specific system requirements.

Typical Applications:

- Precision drives in medical equipment and devices
- Healthcare products requiring quiet, reliable actuation
- Robotics platforms demanding accurate positioning
- Industrial automation systems with tight integration needs

Backed by customizable options and robust design, the 2232N5M micro DC coreless motors are the first choice for engineers and OEMs seeking precise motion control in challenging environments.

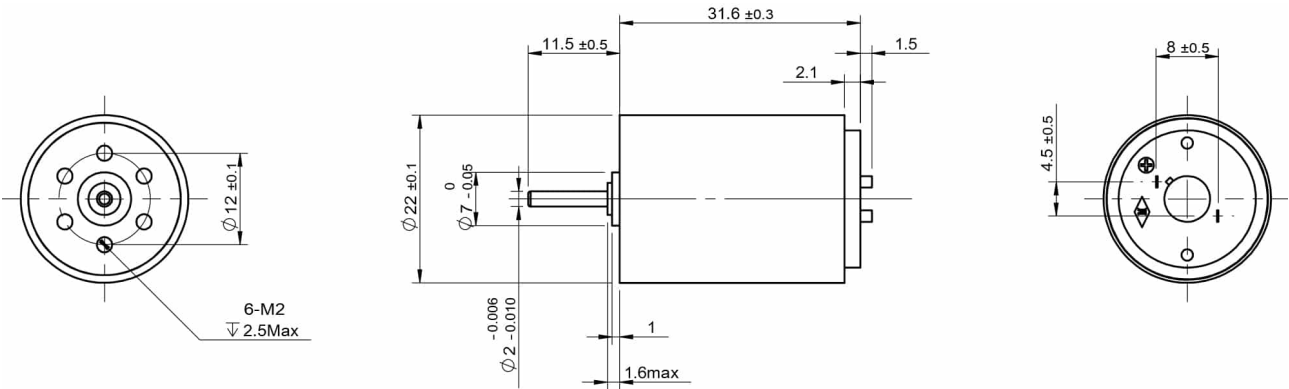


<https://www.kocomotion.de/produkt/2232n5m/>

Motor Specifications	Unit	2232N5M08-63-6.0	2232N5M13-79-9.0	2232N5M05-54-12.0
Rated voltage	V	6.0	9.0	12.0
Max. output power	W	3	8.3	2
Max. efficiency	%	81	84	73
Back-EMF constant	mV/rpm	0.9	1.1	2.2
Torque constant	mNm/A	9	10.8	20.8
Speed/torque gradient	rpm/mNm	300	200	400
Rotor inertia	gcm ²	4.4	4.4	4.4
Weight	g	55	55	55
Thermal resistance housing-ambient	K/W	19.4	19.4	19.4
Thermal resistance winding-housing	K/W	21.7	21.7	21.7
Thermal time constant motor	s	383	383	383
Terminal resistance	Ω	2.9	2.4	17.5
Thermal time constant winding	s	329	329	329
Operating temperature	°C	-20~+85	-20~+85	-20~+85
Thermal class of winding	°C	130	130	130
Axial play	mm	0.02-0.15	0.02-0.15	0.02-0.15
Radial play	mm	0.014	0.014	0.014
Axial load dynamic	N	2	2	2
Axial load static	N	60	60	60
Radial load at 3 mm from mounting face	N	2	2	2
No. of pole pairs		1	1	1
Bearings		2 Sleeve bearings	2 Sleeve bearings	2 Sleeve bearings
No-load speed	rpm	6300	7900	5400
Commutator		metal 5 segments	metal 5 segments	metal 5 segments
Protection class	IP	40	40	40
Outer diameter	mm	22 +/- 0.1	22 +/- 0.1	22 +/- 0.1
Motor length	mm	31.6 +/- 0.3	31.6 +/- 0.3	31.6 +/- 0.3
No-load current	mA	20	25	15
Stall torque	mNm	18.5	40.3	14
Stall current	mA	2070	3750	690
Nominal torque	mNm	4	6	4
Nominal speed	rpm	4940	6720	3860

Motor Specifications	Unit	2232N5M08-63-6.0	2232N5M13-79-9.0	2232N5M05-54-12.0
Nominal current	mA	460	580	210

Drawings



22mm Coreless DC Motor, Precious Metal

2232N5M2B

The **2232N5M2B** series is a premium 22mm precious coreless DC motor designed for applications requiring exceptional precision, reliability, and compact performance. Utilizing **precious metal commutation**, this motor offers low contact resistance and stable electrical characteristics, ensuring smooth, low-noise operation and extended service life.



• Key Features:

- 22mm diameter compact profile for space-constrained designs
- Coreless technology for reduced rotor inertia and fast acceleration
- High-efficiency, low-power consumption
- Precious metal brushes for superior signal clarity in sensitive applications
- Customization options: shaft length, special coils, bearing types, and gear heads

• Core Applications:

- Precision drives in medical equipment and devices
- Healthcare product actuation
- Robotics and automation systems
- Industrial control and instrumentation

• Benefits:

- Exceptional performance in demanding, high-precision environments
- Flexibility for tailored mechanical and electrical configurations
- Reduced maintenance requirements and long operational life

Whether integrated into medical devices or robotic assemblies, the 2232N5M2B family delivers optimal performance where accuracy, efficiency, and reliability are essential.

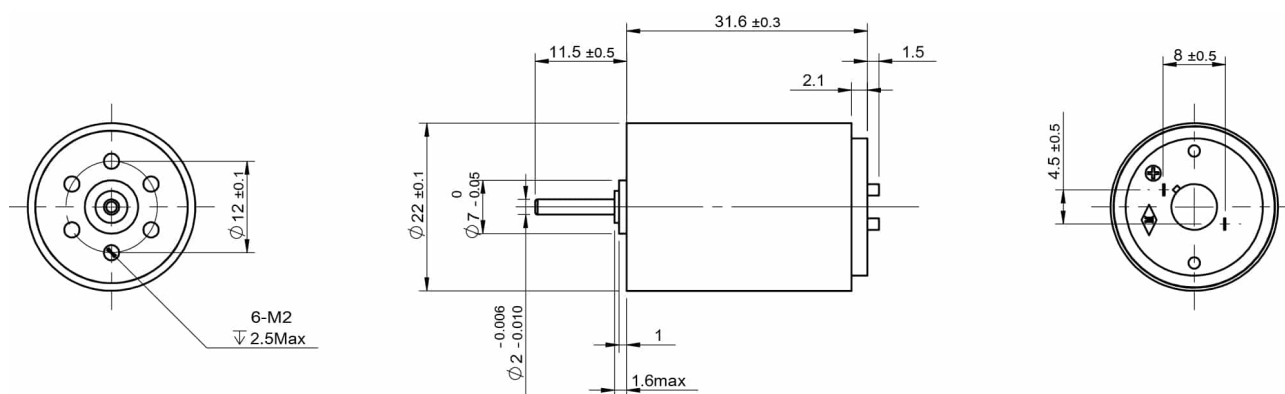


<https://www.kocomotion.de/produkt/2232n5m2b/>

Characteristics	Unit	2232N5M2B03-81-6.0	2232N5M2B08-100-9.0	2232N5M2B04-100-12.0
Rated voltage	V	6.0	9.0	12.0
Max. output power	W	4.7	6.9	8.3
Max. efficiency	%	85	85	84
Back-EMF constant	mV/rpm	0.7	0.9	1.2
Torque constant	mNm/A	7.0	8.5	11.4
Speed/torque gradient	rpm/mNm	400	400	300
Rotor inertia	gcm ²	4.4	4.4	4.4
Weight	g	55	55	55
Thermal resistance housing-ambient	K/W	19.4	19.4	19.4
Thermal resistance winding-housing	K/W	21.7	21.7	21.7
Thermal time constant motor	s	383	383	383
Terminal resistance	Ω	1.9	2.9	4.3
Thermal time constant winding	s	329	329	329
Operating temperature	°C	-20~+85	-20~+85	-20~+85
Thermal class of winding	°C	130	130	130
Axial play	mm	0.02-0.15	0.02-0.15	0.02-0.15
Radial play	mm	0.025	0.025	0.025
Axial load dynamic	N	3.3	3.3	3.3
Axial load static	N	60	60	60
Radial load at 3 mm from mounting face	N	14	14	14
No. of pole pairs		1	1	1
Bearings		2 ball bearings	2 ball bearings	2 ball bearings
No-load speed	rpm	8100	10000	10000
Commutator		metal 5 segments	metal 5 segments	metal 5 segments
Protection class	IP	30	30	30
Outer diameter	mm	22 +/- 0.1	22 +/- 0.1	22 +/- 0.1
Motor length	mm	31.6 +/- 0.3	31.6 +/- 0.3	31.6 +/- 0.3
No-load current	mA	20	20	20
Stall torque	mNm	22.1	26.3	31.5
Stall current	mA	3160	3100	2790
Nominal torque	mNm	4	5	7

Characteristics	Unit	2232N5M2B03-81- 6.0	2232N5M2B08-100- 9.0	2232N5M2B04-100- 12.0
Nominal speed	rpm	6630	8100	7780
Nominal current	mA	590	610	640

Drawings



22mm Coreless DC Motor

2232N9M

The **2232N9M family** comprises advanced 22mm micro DC coreless motors engineered for applications demanding compactness, performance, and accuracy. With precious metal commutation, these motors deliver low electrical noise, high efficiency, and extended operational life, making them an ideal choice for critical precision drive solutions.



- **Key Features:**

- 22mm coreless design enables minimized weight and inertia for highly responsive motion control.
- Precious metal commutation supports low contact resistance and high reliability, particularly in applications requiring consistent performance.
- Multiple configuration options, including shaft length, custom coil designs, bearing types, and compatible gearheads, support tailored integration into specialized systems.

- **Typical Applications:**

- Precision drives in medical equipment and devices
- Healthcare products requiring silent, smooth, and accurate actuation
- Robotics for compact, responsive, and jitter-free movements
- Industrial automation systems benefiting from high dynamic response and longevity

- **Benefits:**

- High efficiency and robust performance in continuous operation
- Quiet operation reduces system noise, ideal for sensitive environments
- Flexible design options for seamless adaptation to specific application needs

Choose the 2232N9M series for reliable micro motion solutions in demanding B2B and OEM environments.

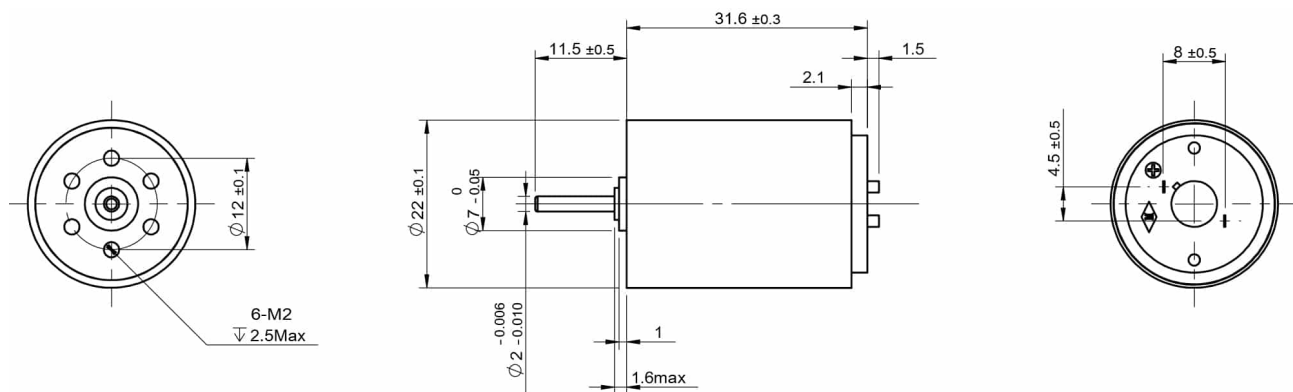


<https://www.kocomotion.de/produkt/2232n9m/>

Characteristics	Unit	2232N9M03-66-6.0	2232N9M02-60-6.8	2232N9M01-100-24.0
Rated voltage	V	6.0	6.8	24.0
Max. output power	W	3.1	3.8	8.3
Max. efficiency	%	84	84	86
Back-EMF constant	mV/rpm	0.9	1.1	2.4
Torque constant	mNm/A	8.6	10.8	22.8
Speed/torque gradient	rpm/mNm	400	200	300
Rotor inertia	gcm ²	4.4	4.4	4.4
Weight	g	55	55	55
Thermal resistance housing-ambient	K/W	19.4	19.4	19.4
Thermal resistance winding-housing	K/W	21.7	21.7	21.7
Thermal time constant motor	s	383	383	383
Terminal resistance	Ω	2.9	3.0	17.2
Thermal time constant winding	s	329	329	329
Operating temperature	°C	-20~+85	-20~+85	-20~+85
Thermal class of winding	°C	130	130	130
Axial play	mm	0.02-0.15	0.02-0.15	0.02-0.15
Radial play	mm	0.014	0.014	0.014
Axial load dynamic	N	2	2	2
Axial load static	N	60	60	60
Radial load at 3 mm from mounting face	N	2	2	2
No. of pole pairs		1	1	1
Bearings		2 sleeve bearings	2 sleeve bearings	2 sleeve bearings
No-load speed	rpm	6600	6000	10000
Commutator		metal 9 segments	metal 9 segments	metal 9 segments
Protection class	IP	40	40	40
Outer diameter	mm	22 +/- 0.1	22 +/- 0.1	22 +/- 0.1
Motor length	mm	31.6 +/- 0.3	31.6 +/- 0.3	31.6 +/- 0.3
No-load current	mA	15	15	8
Stall torque	mNm	17.7	24.2	31.7
Stall current	mA	2070	2270	1400
Nominal torque	mNm	5	5	7
Nominal speed	rpm	4740	4760	7790

Characteristics	Unit	2232N9M03-66-6.0	2232N9M02-60-6.8	2232N9M01-100-24.0
Nominal current	mA	600	480	320

Drawings



22mm Coreless DC Motor

2232N9M2B

2232N9M2B 22mm Micro DC Coreless Motor

The 2232N9M2B coreless DC motor offers precision performance in a compact 22mm diameter format, utilizing **precious metal commutation** to ensure reliable, low-noise operation and long service life. Its coreless construction enables rapid acceleration, superior efficiency, and low electromagnetic interference, making it ideal for sensitive and demanding environments.



• Key Features:

- 22mm diameter compact design
- Coreless rotor for high efficiency and smooth running
- Precious metal commutation for low contact resistance and durability
- Multiple options including: shaft length, special coils, bearing types, and gear heads

• Typical Applications:

- Precision drives for medical equipment and devices
- Actuators in healthcare products
- Compact robotics solutions
- Industrial automation requiring reliable micro-motion control

• Competitive Advantages:

- Customizable configurations to meet specific engineering requirements
- Optimized for high reliability in continuous or intermittent duty cycles
- Ideal for space-constrained installations needing quiet, precise motion

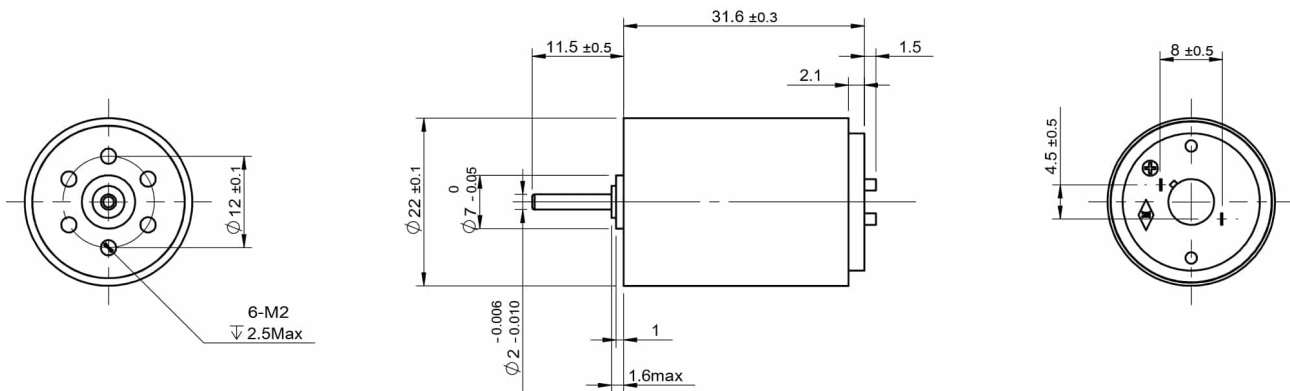
The 2232N9M2B is a robust choice for engineers seeking dependable micro-motor solutions with a wide array of customization options.


<https://www.kocomotion.de/produkt/2232n9m2b/>

Motor Specifications	Unit	2232N9M2B04-74- 6.0	2232N9M2B05-99- 9.0	2232N9M2B04-110- 12.0
Rated voltage	V	6.0	9.0	12.0
Max. output power	W	3.6	6.9	8.1
Max. efficiency	%	85	85	84
Back-EMF constant	mV/rpm	0.8	0.9	1.1
Torque constant	mNm/A	7.7	8.6	10.3
Speed/torque gradient	rpm/mNm	400	400	400
Rotor inertia	gcm ²	4.4	4.4	4.4
Weight	g	55	55	55
Thermal resistance housing-ambient	K/W	19.4	19.4	19.4
Thermal resistance winding-housing	K/W	21.7	21.7	21.7
Thermal time constant motor	s	383	383	383
Terminal resistance	Ω	2.5	2.9	4.4
Thermal time constant winding	s	329	329	329
Operating temperature	°C	-20~+85	-20~+85	-20~+85
Thermal class of winding	°C	130	130	130
Axial play	mm	0.02-0.15	0.02-0.15	0.02-0.15
Radial play	mm	0.025	0.025	0.025
Axial load dynamic	N	2	2	2
Axial load static	N	60	60	60
Radial load at 3 mm from mounting face	N	2	2	2
No. of pole pairs		1	1	1
Bearings		2 ball bearings	2 ball bearings	2 ball bearings
No-load speed	rpm	7400	9900	11000
Commutator		metal 9 segments	metal 9 segments	metal 9 segments
Protection class	IP	30	30	30
Outer diameter	mm	22 +/- 0.1	22 +/- 0.1	22 +/- 0.1
Motor length	mm	31.6 +/- 0.3	31.6 +/- 0.3	31.6 +/- 0.3
No-load current	mA	15	20	20
Stall torque	mNm	18.4	26.6	28
Stall current	mA	2400	3100	2730
Nominal torque	mNm	5	6	7

Motor Specifications	Unit	2232N9M2B04-74- 6.0	2232N9M2B05-99- 9.0	2232N9M2B04-110- 12.0
Nominal speed	rpm	5380	7660	8250
Nominal current	mA	660	720	700

Drawings



25mm Dual Shaft DC Motor

2543N9C2B

2543N9C2B 25mm Dual Shaft DC Motor is engineered to deliver dependable, high-performance motion in compact form factors. Featuring robust graphite brushes, this motor excels in durability and current handling, making it ideal for demanding environments where long operating life and consistent performance are critical.



- **Key Features:**

- 25mm diameter dual shaft design for versatile installation.
- Graphite brushes ensure reliable electrical contact and extended service life.
- Multiple configurable options: shaft length, special coil windings, bearing types, and gear head compatibility.

- **Typical Applications:**

- Precision drives in medical equipment and devices
- Healthcare product actuation
- Robotics, including articulated arms and automation platforms
- Industrial automation for handling and positioning tasks

- **Benefits:**

- Enhanced durability and performance with graphite brush technology
- Flexible integration through tailored options for mechanical and electrical interfaces
- Supports demanding and high-precision motion control requirements in critical environments

The 2543N9C2B series offers a compelling solution for engineers seeking robust, adaptable DC motors for advanced applications. Its customizable nature allows for seamless adaptation to a wide range of motion control systems.

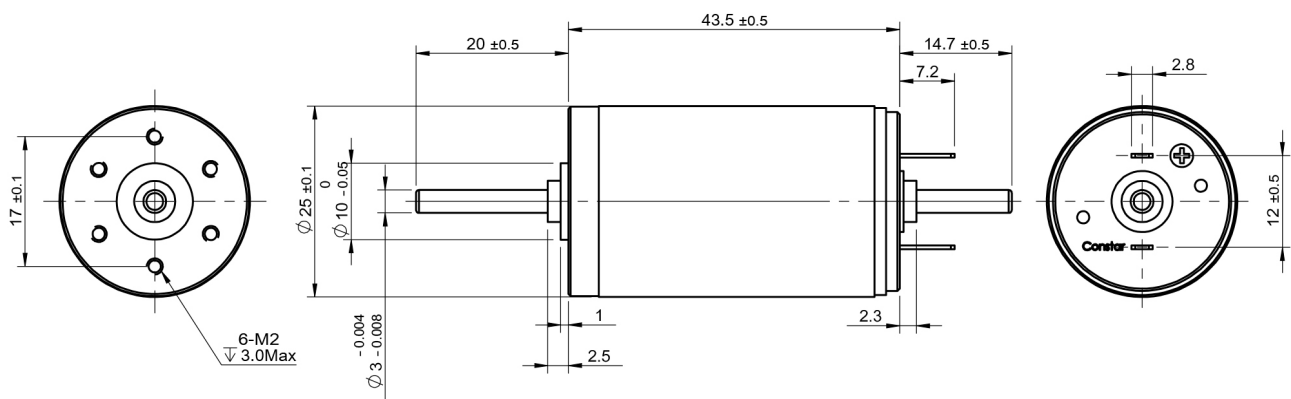


<https://www.kocomotion.de/produkt/2543n9c2b/>

Motor Specifications	Unit	2543N9C2B21-73-14.8	2543N9C2B10-90-24.0	2543N9C2B11-98-30.0	2543N9C2B05-65-48.0
Rated voltage	V	14.8	24.0	30.0	48.0
Max. output power	W	17.4	36.5	50.8	23.8
Max. efficiency	%	83	86	87	77
Back-EMF constant	mV/rpm	2	2.7	3	7.3
Torque constant	mNm/A	19.2	25.3	29.1	69.5
Speed/torque gradient	rpm/mNm	80.4	58.1	49.6	46.5
Rotor inertia	gcm ²	13.2	13.2	13.2	13.2
Weight	g	96	96	96	96
Thermal resistance housing-ambient	K/W	11	11	11	11
Thermal resistance winding-housing	K/W	4.7	4.7	4.7	4.7
Thermal time constant motor	s	266	266	266	266
Terminal resistance	Ω	3.1	3.9	4.4	23.5
Thermal time constant winding	s	123	123	123	123
Operating temperature	°C	-20~+120	-20~+120	-20~+120	-20~+120
Thermal class of winding	°C	155	155	155	155
Axial play	mm	0.02-0.15	0.02-0.15	0.02-0.15	0.02-0.15
Radial play	mm	0.025	0.025	0.025	0.025
Axial load dynamic	N	2	2	2	2
Axial load static	N	20	20	20	20
Radial load at 3 mm from mounting face	N	20	20	20	20
No. of pole pairs		1	1	1	1
Bearings		2 sleeve bearings	2 sleeve bearings	2 sleeve bearings	2 sleeve bearings
No-load speed	rpm	7300	9000	9800	6500
Commutator		graphite 9 segments	graphite 9 segments	graphite 9 segments	graphite 9 segments
Protection class	IP	30	30	30	30
Outer diameter	mm	25 +/- 0.1	25 +/- 0.1	25 +/- 0.1	25 +/- 0.1
Motor length	mm	43.5 +/- 0.5	43.5 +/- 0.5	43.5 +/- 0.5	43.5 +/- 0.5

Motor Specifications	Unit	2543N9C2B21-73- 14.8	2543N9C2B10-90- 24.0	2543N9C2B11-98- 30.0	2543N9C2B05-65- 48.0
No-load current	mA	40	35	30	30
Stall torque	mNm	90.8	154.8	197.6	139.7
Stall current	mA	4770	6150	6820	2040
Nominal torque	mNm	20	30	40	40
Nominal speed	rpm	5690	7260	7820	4640
Nominal current	mA	1080	1220	1400	610

Drawings



25mm Dual Shaft DC Motor, Graphite Brush

2554N9C2B

2554N9C2B - 25mm Dual Shaft DC Motor with Graphite Brushes

The 2554N9C2B family offers robust and efficient 25mm dual shaft DC motors featuring premium graphite brushes for extended operating life and consistent electrical performance, even under intensive duty cycles. This motor is optimized for compact installations where high performance and durability are essential.



- **Graphite Brushes:** Enhanced wear resistance delivers long lifespan and low maintenance.
- **Dual Shaft Design:** Flexible integration into complex drive systems or direct encoder/coupling attachments.
- **Customization Options:** Selectable shaft lengths, special coil windings, bearing types, and compatibility with gear heads for tailored performance.

Applications:

- Precision drives in medical equipment and devices
- Healthcare products requiring reliable, compact motion control
- Robotics where integration flexibility is key
- Industrial automation for precise, repeatable movement

Engineers and OEMs benefit from versatile configuration possibilities, compact form, and proven reliability. The 2554N9C2B is an ideal solution for demanding projects needing precise, consistent torque output and high-duty cycle capability in space-constrained environments.

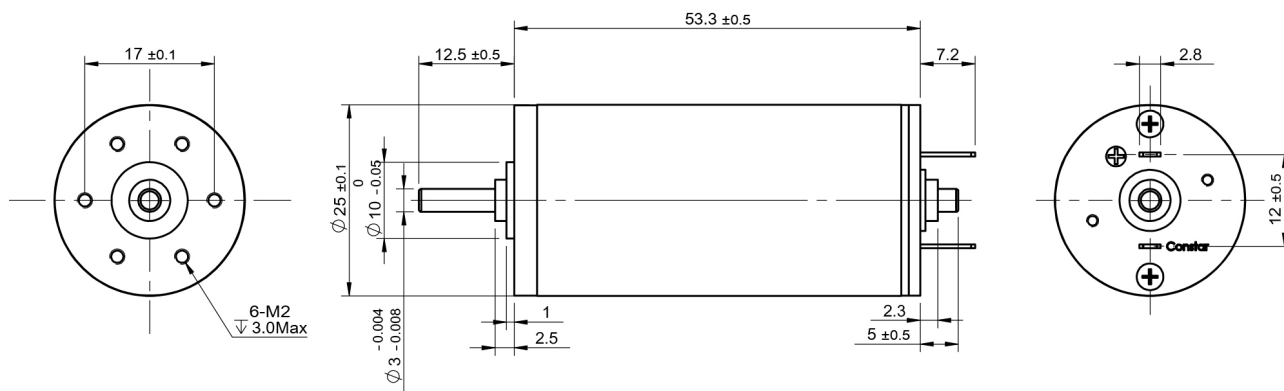


<https://www.kocomotion.de/produkt/2554n9c2b/>

Motor Specifications	Unit	2554N9C2B03-51-12.0	2554N9C2B09-60-14.0	2554N9C2B04-82-24.0	2554N9C2B08-110-24.0
Rated voltage	V	12.0	14.0	24.0	24.0
Max. output power	W	14.9	17.8	39.7	50.8
Max. efficiency	%	88	81	87	84
Back-EMF constant	mV/rpm	2.3	2.3	2.9	2.2
Torque constant	mNm/A	22.4	22.1	27.8	20.7
Speed/torque gradient	rpm/mNm	45.8	52.9	44.4	62.5
Rotor inertia	gcm ²	14.2	14.2	14.2	14.2
Weight	g	120	120	120	120
Thermal resistance housing-ambient	K/W	10.8	10.8	10.8	10.8
Thermal resistance winding-housing	K/W	4	4	4	4
Thermal time constant motor	s	284	284	284	284
Terminal resistance	Ω	2.4	2.7	3.6	2.8
Thermal time constant winding	s	157	157	157	157
Operating temperature	°C	-20~+120	-20~+120	-20~+120	-20~+120
Thermal class of winding	°C	120	120	120	120
Axial play	mm	0.02-0.15	0.02-0.15	0.02-0.15	0.02-0.15
Radial play	mm	0.025	0.025	0.025	0.025
Axial load dynamic	N	2	2	2	2
Axial load static	N	20	20	20	20
Radial load at 3 mm from mounting face	N	20	20	20	20
No. of pole pairs		1	1	1	1
Bearings		2 sleeve bearings	2 sleeve bearings	2 sleeve bearings	2 sleeve bearings
No-load speed	rpm	5100	6000	8200	11000
Commutator		graphite 9 segments	graphite 9 segments	graphite 9 segments	graphite 9 segments
Protection class	IP	30	30	30	30
Outer diameter	mm	25 +/- 0.1	25 +/- 0.1	25 +/- 0.1	25 +/- 0.1
Motor length	mm	53.3 +/- 0.5	53.3 +/- 0.5	53.3 +/- 0.5	53.3 +/- 0.5

Motor Specifications	Unit	2554N9C2B03-51- 12.0	2554N9C2B09-60- 14.0	2554N9C2B04-82- 24.0	2554N9C2B08-110- 24.0
No-load current	mA	20	50	30	60
Stall torque	mNm	111.45	113.42	184.75	176.06
Stall current	mA	5000	5190	6670	8570
Nominal torque	mNm	20	20	30	30
Nominal speed	rpm	4180	4940	6870	9130
Nominal current	mA	910	960	1110	1510

Drawings



30mm Dual Shaft DC Motor

3068N9C2B

3068N9C2B 30mm Dual Shaft DC Motor delivers robust performance and exceptional versatility for challenging industrial and medical environments. Designed with durable graphite brushes, these motors ensure enhanced durability, consistent operational reliability, and minimized electrical noise for smooth operation over extended periods.



- **Key Features:**

- 30mm dual shaft construction for flexible design integration
- Robust graphite brushes for superior longevity and electrical stability
- Multiple configurations available with varying voltage and shaft lengths

- **Custom Options:**

- Customizable shaft lengths
- Special coil designs for tailored performance
- Choice of precision bearing types for specific load or speed requirements
- Compatible gear heads for torque and speed modifications

- **Typical Applications:**

- Precision drives in medical equipment and diagnostic devices
- Healthcare products requiring reliable miniature motion
- Robotics for precise actuation and feedback control
- Industrial automation systems demanding efficient, compact motors

Engineered for efficiency, the 3068N9C2B family is a top choice for engineers and OEMs seeking adaptable motion solutions. Its modular options and proven reliability allow seamless integration into new or existing designs, supporting long-term productivity and operational excellence.

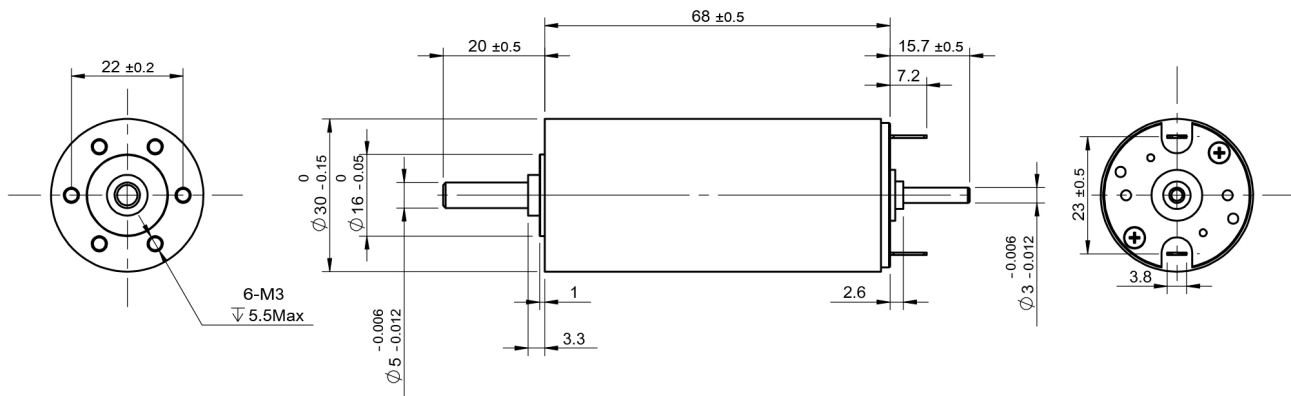


<https://www.kocomotion.de/produkt/3068n9c2b/>

Motor Specifications	Unit	3068N9C2B06-86-18.0	3068N9C2B10-100-24.0	3068N9C2B02-82-36.0	3068N9C2B04-87-48.0
Rated voltage	V	18.0	24.0	36.0	48.0
Max. output power	W	79.7	88.7	127.9	139.5
Max. efficiency	%	83	83	84	87
Back-EMF constant	mV/rpm	2.1	2.4	4.4	5.5
Torque constant	mNm/A	19.8	22.7	41.6	52.5
Speed/torque gradient	rpm/mNm	24.3	29.6	13.8	14.2
Rotor inertia	gcm ²	33	33	33	33
Weight	g	245	245	245	245
Thermal resistance housing-ambient	K/W	6.2	6.2	6.2	6.2
Thermal resistance winding-housing	K/W	3.8	3.8	3.8	3.8
Thermal time constant motor	s	225	225	225	225
Terminal resistance	Ω	1	1.6	2.5	4.1
Thermal time constant winding	s	7.8	7.8	7.8	7.8
Operating temperature	°C	-20~+120	-20~+120	-20~+120	-20~+120
Thermal class of winding	°C	155	155	155	155
Axial play	mm	0.02-0.15	0.02-0.15	0.02-0.15	0.02-0.15
Radial play	mm	0.025	0.025	0.025	0.025
Axial load dynamic	N	5	5	5	5
Axial load static	N	50	50	50	50
Radial load at 3 mm from mounting face	N	50	50	50	50
No. of pole pairs		1	1	1	1
Bearings		2 sleeve bearings	2 sleeve bearings	2 sleeve bearings	2 sleeve bearings
No-load speed	rpm	8600	10000	8200	8700
Commutator		graphite 9 segments	graphite 9 segments	graphite 9 segments	graphite 9 segments
Protection class	IP	40	40	40	40
Outer diameter	mm	30 - 0.15	30 - 0.15	30 - 0.15	30 - 0.15
Motor length	mm	68 +/- 0.5	68 +/- 0.5	68 +/- 0.5	68 +/- 0.5

Motor Specifications	Unit	3068N9C2B06-86-18.0	3068N9C2B10-100-24.0	3068N9C2B02-82-36.0	3068N9C2B04-87-48.0
No-load current	mA	150	120	100	50
Stall torque	mNm	353.8	338.3	595.3	611.7
Stall current	mA	18000	15000	14400	11710
Nominal torque	mNm	40	40	60	80
Nominal speed	rpm	7630	8820	7370	7560
Nominal current	mA	2170	1880	1540	1570

Drawings



32mm Coreless DC Motor Series

3257N9C2B

The **3257N9C2B series** is a versatile family of 32mm coreless DC motors, designed for high-efficiency operation in precision environments. Engineered with robust graphite brushes and available in both **12V and 24V** models, these motors deliver reliable performance where consistent torque and low inertia are critical.

- **Coreless Design:** Reduces cogging and improves responsiveness, supporting sensitive motion control tasks.
- **Graphite Brushes:** Offer long life and operational stability in applications with frequent start-stop cycles.
- **Customizable Options:** Includes a range of shaft lengths, special coils for tailored electrical characteristics, multiple bearing types, and compatible gear heads.

These motors are ideally suited for:

- Medical equipment and devices requiring smooth, silent drive systems
- Healthcare products focused on reliability and low maintenance
- Compact robotic actuators or precision positioning systems
- Industrial automation requiring scalable, efficient drive solutions

Engineers benefit from the flexibility to adapt each motor to their exact specifications, enabling precise control and integration into complex assemblies. The 3257N9C2B series stands out with its excellent balance of performance, customization, and reliability for advanced automation and equipment needs.



<https://www.kocomotion.de/produkt/3257n9c2b/>

Characteristics	Unit	3257N9C2B01-54- 12.0	3257N9C2B02-64- 24.0	3257N9C2B08-74- 24.0
Rated voltage	V	12.0	24.0	24.0
Max. output power	W	34.6	50.6	77
Max. efficiency	%	74	83	81
Back-EMF constant	mV/rpm	2.2	3.7	3.2
Torque constant	mNm/A	20.9	35.5	30.7
Speed/torque gradient	rpm/mNm	9.6	17.5	18.6
Rotor inertia	g·cm ²	42	42	42
Weight	g	230	230	230
Thermal resistance housing-ambient	K/W	7.6	7.6	7.6
Thermal resistance winding-housing	K/W	4.1	4.1	4.1
Thermal time constant motor	s	725	725	725
Terminal resistance	Ω	1	2.8	2.4
Thermal time constant winding	s	540	540	540
Operating temperature	°C	-20~+120	-20~+120	-20~+120
Thermal class of winding	°C	155	155	155
Axial play	mm	0.02-0.15	0.02-0.15	0.02-0.15
Radial play	mm	0.025	0.025	0.025
Axial load dynamic	N	5	5	5.6
Axial load static	N	50	50	110
Radial load at 3 mm from mounting face	N	30	30	30
No. of pole pairs		1	1	1
Bearings		2 sleeve bearings	2 sleeve bearings	2 ball bearings
No-load speed	rpm	5600	6400	7400
Commutator		graphite 9 segments	graphite 9 segments	graphite 9 segments
Protection class	IP	40	40	40
Outer diameter	mm	32	32	32
Motor length	mm	57	57	57
No-load current	mA	240	70	100
Stall torque	mNm	235.8	301.9	303.5
Stall current	mA	12000	8570	10000
Nominal torque	mNm	30	50	50

Characteristics	Unit	3257N9C2B01-54- 12.0	3257N9C2B02-64- 24.0	3257N9C2B08-74- 24.0
Nominal speed	rpm	4890	5340	6180
Nominal current	mA	1740	1480	1730

Drawings

4mm Miniature Coreless DC Motor Family

L0408N3M

L0408N3M 4mm Mini Coreless Motor Series delivers advanced motion solutions in an ultra-compact form factor, engineered for demanding applications requiring lightweight precision and efficiency.



- **Core Features:**

- 4mm diameter, ultra-lightweight (0.5 g)
- Coreless rotor with precious metal brushes for reduced friction, low electrical noise, and longer brush life
- High-speed operation up to 78,500 rpm (model dependent)
- Wide voltage range (3.4–5.0 V) with low current consumption for battery-driven designs

- **Technical Specifications (Typical Values):**

- No-load speed: 58,000–78,500 rpm
- Stall torque: up to 0.08 mNm
- Max. efficiency: up to 27.5%
- Operating temperature: -20°C ~ +65°C

- **Key Applications:**

- Mini UAVs and drones
- Remote control hobby products (micro cars, helicopters, and planes)
- Small household appliances and portable devices

- **Options & Customization:**

- Optional shaft lengths
- Special coil windings for optimized torque/speed profiles
- Gearhead integration for application-specific reduction ratios

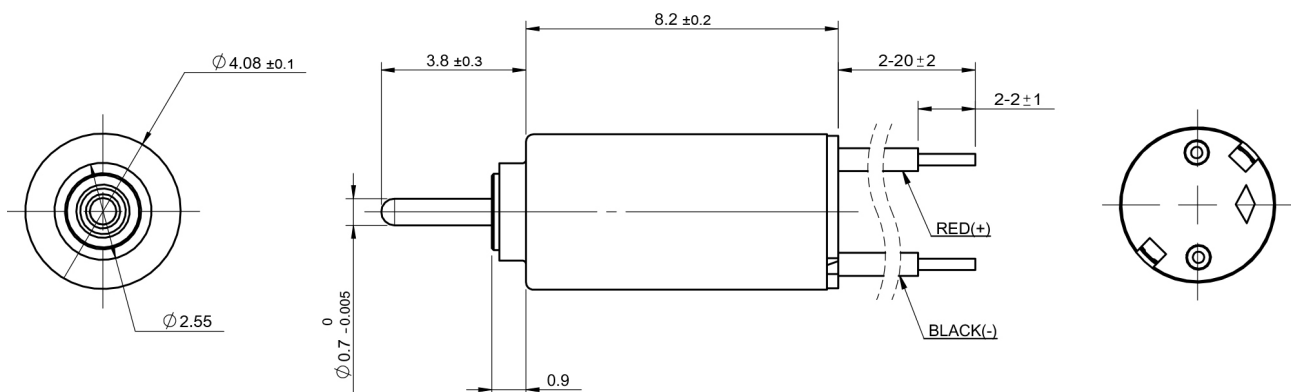
With exceptional speed-to-size ratio, reliability, and adaptable configurations, the L0408N3M family is ideal for precision drives where space and weight are at a premium and performance cannot be compromised.



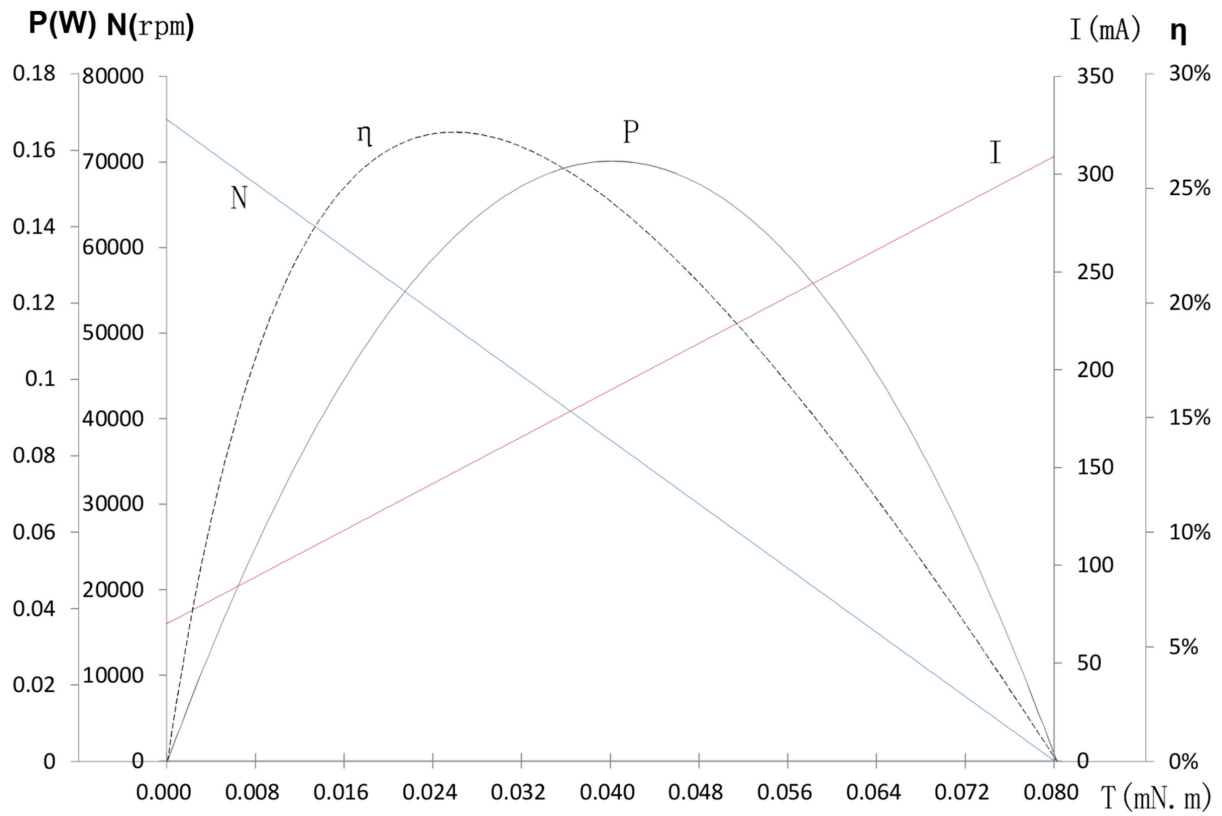
<https://www.kocomotion.de/produkt/l0408n3m/>

Motor Specifications	Unit	L0408N3M08-750-3.4	L0408N3M32-580-3.4	L0408N3M12-785-5.0
Rated voltage	V	3.4	3.4	5.0
Max. output power	W	0.16	0.07	0.14
Max. efficiency	%	27.5	24.4	24.9
Back-EMF constant	mV/rpm	0.04	0.04	0.05
Torque constant	mNm/A	0.33	0.41	0.46
Speed/torque gradient	rpm/mNm	937500	1208333	1154412
Rotor inertia	gcm ²	0.003	0.003	0.003
Weight	g	0.5	0.5	0.5
Operating temperature	°C	-20~+65	-20~+65	-20~+65
Outer diameter	mm	4.08 +/- 0.1	4.08 +/- 0.1	4.08 +/- 0.1
Motor length	mm	8.2 +/- 0.2	8.2 +/- 0.2	8.2 +/- 0.2
Terminal resistance	Ω	11	22	25
No-load speed	rpm	75000	58000	78500
No-load current	mA	70	40	50
Stall torque	mNm	0.08	0.05	0.07
Stall current	mA	309	155	200
Load torque	mNm	0.03	0.03	0.03
Load speed	rpm	46880	21750	43870
Load current	mA	160	110	120

Drawings



Speed/Thrust Curves

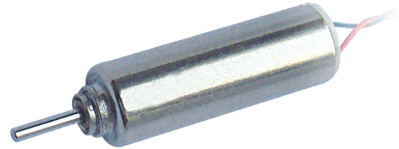


Micro Coreless DC Motor, 4mm, 3.4–3.7V

L0412N3M

L0412N3M Series - High-Performance Micro Coreless DC Motors

The L0412N3M family delivers precision motion in compact applications demanding high efficiency and minimal inertia. Engineered with precious metal brushes, these 4mm diameter motors operate efficiently across 3.4–3.7V and weigh just 0.7–0.8g, making them ideal for space-constrained systems.



• Outstanding Performance:

- No-load speeds up to 65,000 rpm (3.4V) and 63,000 rpm (3.7V)
- Stall torque up to 0.23 mNm
- Peak output up to 0.38 W
- Maximum efficiency up to 44%
- Low rotor inertia (0.005 gcm²) for fast dynamic response

• Key Features:

- Precious metal brush design ensures reliable, low-voltage operation
- Robust construction with an operating temperature range of -20 to +65°C
- Terminal resistance as low as 7Ω enables efficient energy transfer

• Applications:

- Mini UAV propulsion and actuation
- Remote control and hobby electronics
- Small household appliances and precision devices

- **Available Options:** Custom shaft lengths, special coil configurations, and compatible precision gearheads to match application-specific requirements.

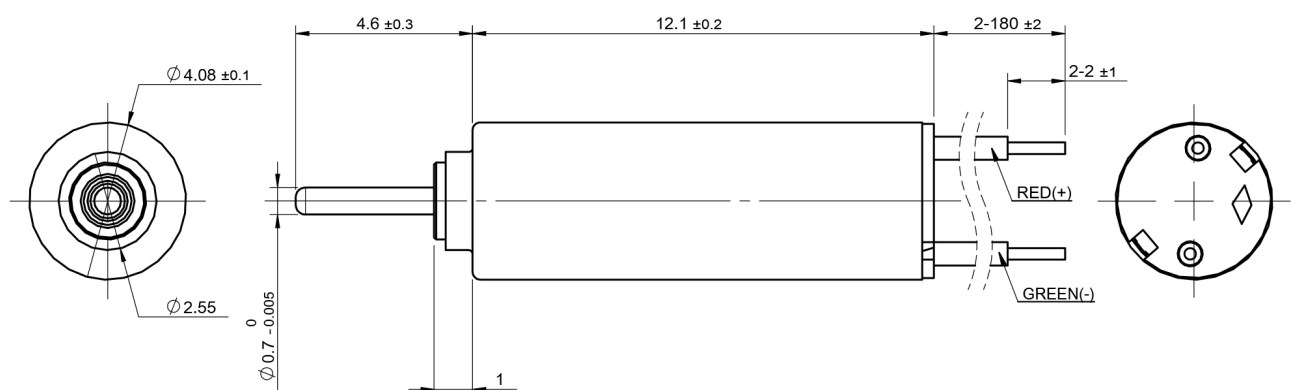
This series is the preferred solution when size, speed, and efficiency are critical—delivering reliable power for innovative micro-mechatronic designs.



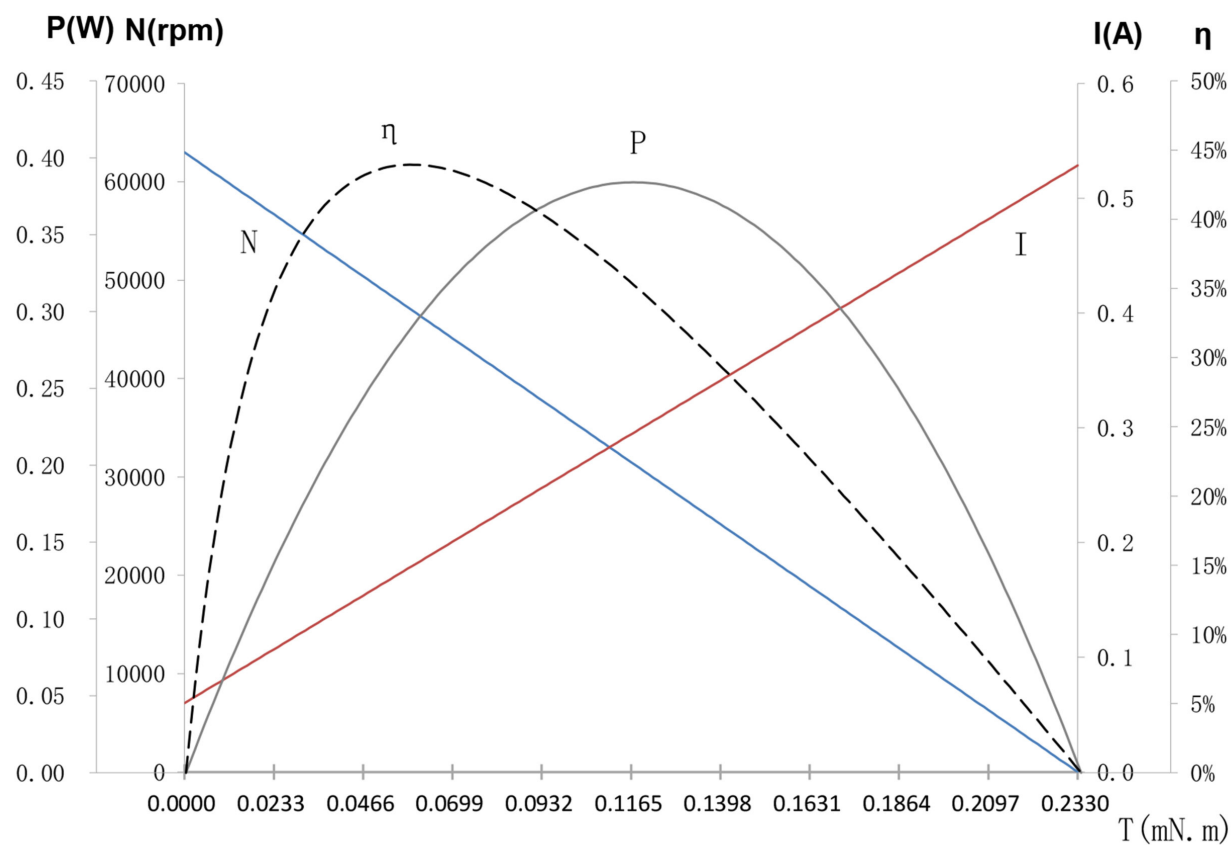
<https://www.kocomotion.de/produkt/l0412n3m/>

Motor Specifications	Unit	L0412N3M71-680-3.7	L0412N3M65-650-3.4	L0412N3M60-600-3.4
Rated voltage	V	3.7	3.4	3.4
Max. output power	W	0.38	0.26	0.25
Max. efficiency	%	44	40.1	41.3
Back-EMF constant	mV/rpm	0.05	0.05	0.05
Torque constant	mNm/A	0.5	0.43	0.47
Speed/torque gradient	rpm/mNm	270386	424837	372671
Rotor inertia	gcm ²	0.005	0.005	0.005
Weight	g	0.8	0.8	0.7
Operating temperature	°C	-20~+65	-20~+65	-20~+65
Outer diameter	mm	4.08 +/- 0.1	4.08 +/- 0.1	4.08 +/- 0.1
Motor length	mm	12.1 +/- 0.2	12.1 +/- 0.2	12.1 +/- 0.2
Terminal resistance	Ω	7	8.3	8.7
Outer diameter	mm	4.08 +/- 0.1	4.08 +/- 0.1	4.08 +/- 0.1
Motor length	mm	12.1 +/- 0.2	12.1 +/- 0.2	12.1 +/- 0.2
No-load speed	rpm	63000	65000	60000
No-load current	mA	60	55	50
Stall torque	mNm	0.23	0.15	0.16
Stall current	mA	529	410	391
Load torque	mNm	0.03	0.03	0.03
Load speed	rpm	54890	52250	48820
Load current	mA	120	120	110

Drawings



Speed/Thrust Curves



5mm Mini Coreless DC Motor, Precious Metal Brushes

L0510N3M

L0510N3M Series - High-Performance 5mm Mini Coreless DC Motors



- **Dimensions/Construction:** Ultra-miniature 5mm diameter; coreless design with precious metal brushes for high conductivity and long service life.
- **Key Specifications (select models):**
 - Voltage range: 3.5 V to 5.0 V
 - No-load speed: up to 87,000 rpm
 - Max. efficiency: up to 44.0%
 - Max. stall torque: up to 0.28 mNm
 - Ultra-lightweight: only 0.8 g
 - Temperature range: -20°C to +65°C
- **Benefits:**
 - Low rotor inertia (0.006 gcm²) enables rapid acceleration and precise speed control.
 - High-speed performance and robust torque output for demanding micro-mechanisms.
 - Compact footprint facilitates integration into space-restricted environments.
 - Available lead wire/shaft customizations and optional gearheads or special coil versions to meet diverse engineering needs.
- **Typical Applications:**
 - Mini UAV propulsion and stabilization
 - Remote control hobby products (micro drones, model vehicles)
 - Precision actuation in small household appliances

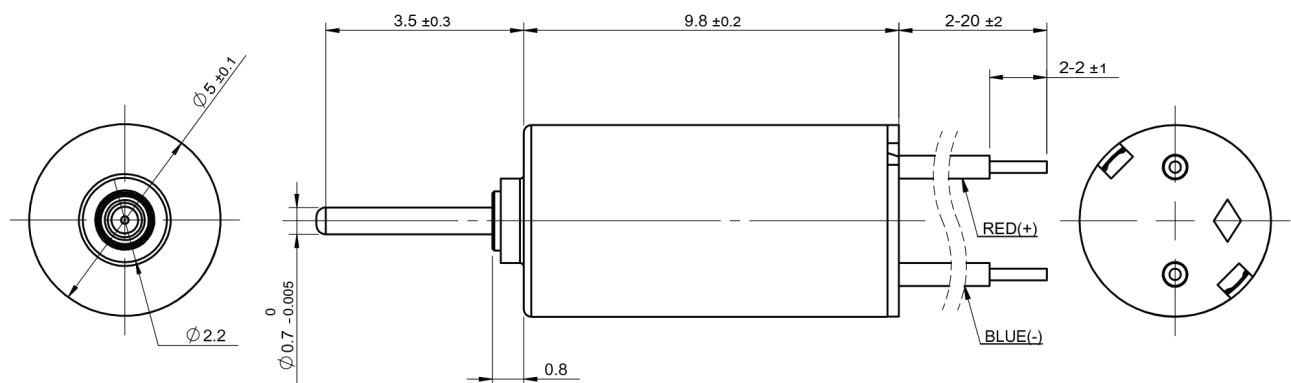
Ideal for engineers seeking reliable, high-efficiency micro motion solutions in advanced electromechanical designs.



<https://www.kocomotion.de/produkt/l0510n3m/>

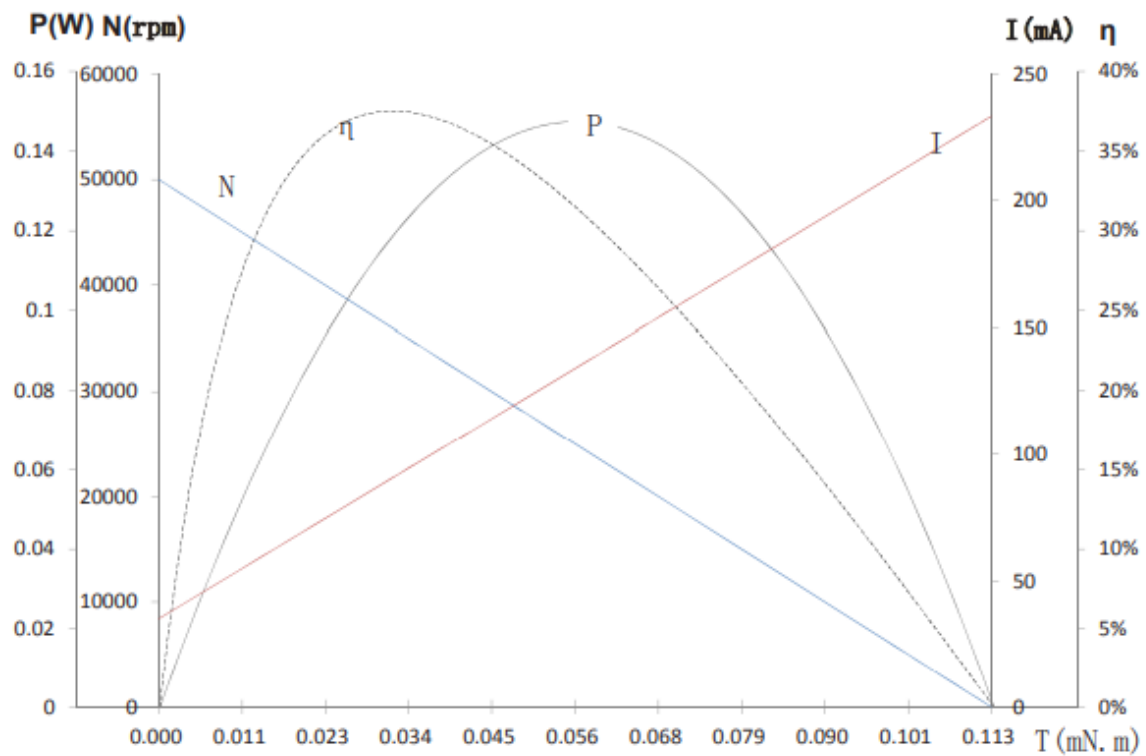
Characteristics	Unit	L0510N3M01-500-3.5	L0510N3M01-550-4.2	L0510N3M10-900-5.0
Rated voltage	V	3.5	4.2	5.0
Max. output power	W	0.15	0.22	0.64
Max. efficiency	%	37.7	38.7	44.0
Back-EMF constant	mV/rpm	0.06	0.07	0.05
Torque constant	mNm/A	0.57	0.63	0.49
Speed/torque gradient	rpm/mNm	442478	366667	310714
Rotor inertia	gcm ²	0.006	0.006	0.006
Weight	g	0.8	0.8	0.8
Operating temperature	°C	-20~+65	-20~+65	-20~+65
Outer diameter	mm	5 +/- 0.1	5 +/- 0.1	5 +/- 0.1
Motor length	mm	9.8 +/- 0.2	9.8 +/- 0.2	9.8 +/- 0.2
Terminal resistance	Ω	15.0	15.0	7.6
No-load speed	rpm	50000	55000	87000
No-load current	mA	35	40	70
Stall torque	mNm	0.11	0.15	0.28
Stall current	mA	233	280	660
Load torque	mNm	0.03	0.03	0.03
Load speed	rpm	36730	44000	77680
Load current	mA	90	90	130

Drawings



2D drawing L0510N3M

Speed/Thrust Curves



Characteristics Curve/ Mode L0510N3M01-500-3.5

6mm Coreless DC Micro Motor

L0609N3M

L0609N3M Micro Coreless DC Motor Series offers exceptional performance in an ultra-compact 6mm diameter footprint, featuring precious metal brushes for reliable and consistent commutation. This motor series is engineered for demanding applications where weight, responsiveness, and efficiency are critical.



• Key Technical Specifications:

- Voltage: 3.0 V (nominal)
- No-load speed: Up to 49,000 rpm
- Terminal resistance: 7.7-14.2 Ω
- Maximum output power: up to 0.22 W
- Stall torque: up to 0.18 mNm
- Ultra-low weight: 1 g
- Operating temperature range: -20°C to +65°C
- Rotor inertia: 0.008 gcm²

• Applications:

- Mini UAV propulsion and control
- Remote control hobby products (cars, aircraft, etc.)
- Precision mechanisms in small household appliances

• Benefits & Options:

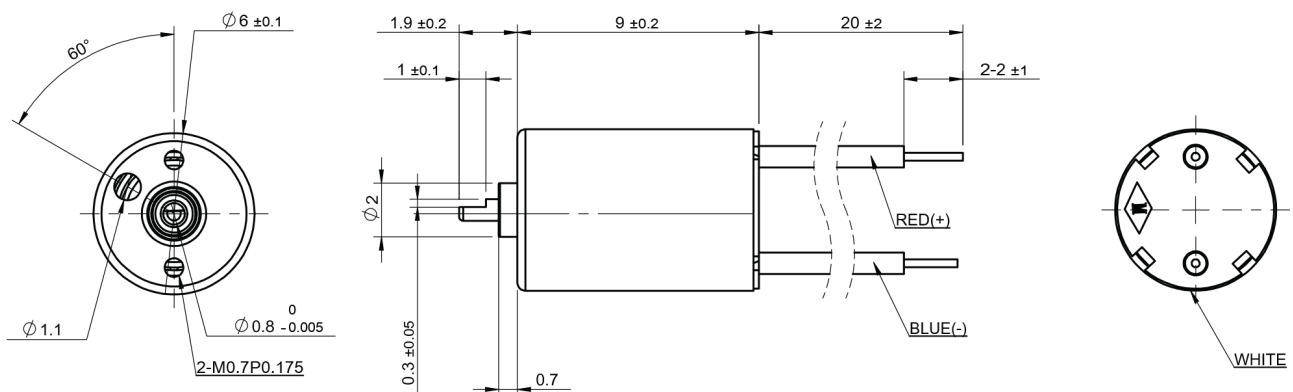
- High-speed, smooth operation via coreless rotor design
- Customizable with lead wire length, shaft length, special coil windings, and gearheads
- Ideal for integration in weight-sensitive, high-reliability motion control applications

Designed for engineers seeking high dynamic response in miniature form factors, L0609N3M motors deliver proven reliability and flexibility for advanced OEM designs.


<https://www.kocomotion.de/produkt/l0609n3m/>

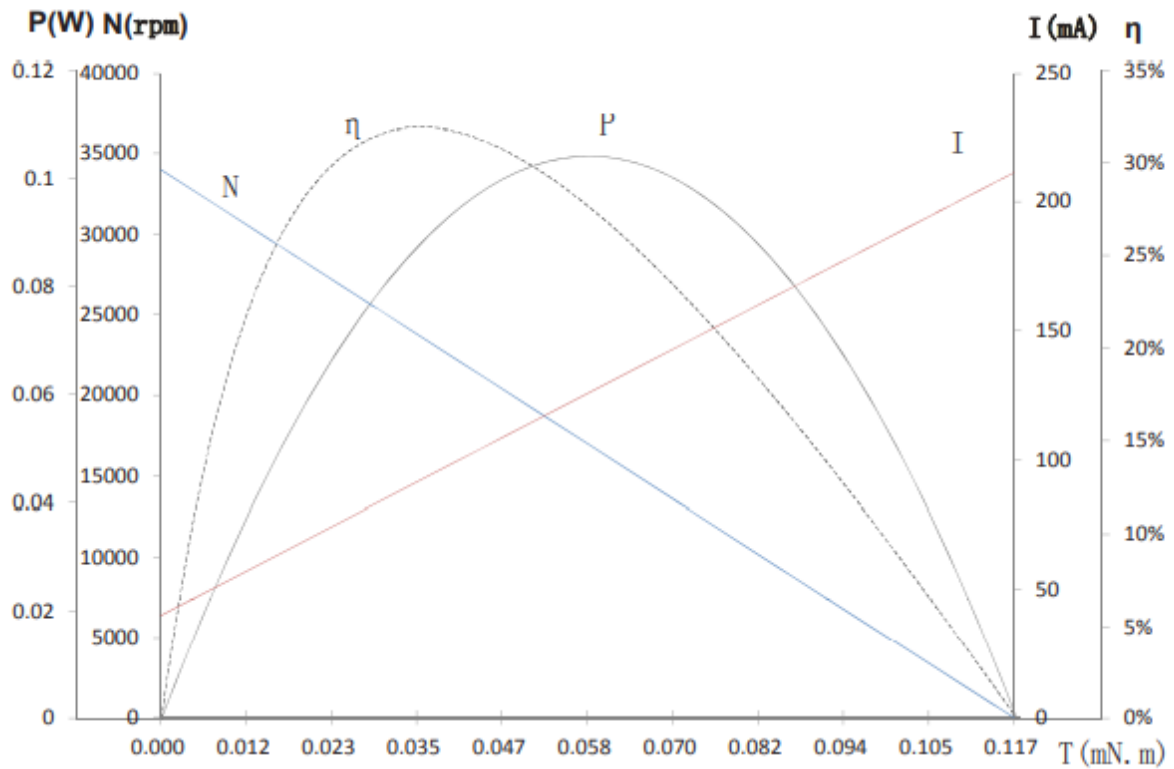
Characteristics	Unit	L0609N3M58-340-3.0	L0609N3M09-490-3.0	L0609N3M10-435-3.0
Rated voltage	V	3.0	3.0	3.0
Max. output power	W	0.10	0.22	0.20
Max. efficiency	%	31.9	40.9	35.0
Back-EMF constant	mV/rpm	0.07	0.05	0.06
Torque constant	mNm/A	0.68	0.51	0.55
Speed/torque gradient	rpm/mNm	290598	288235	244382
Rotor inertia	gcm ²	0.008	0.008	0.008
Weight	g	1	1	1
Operating temperature	°C	-20~+65	-20~+65	-20~+65
Outer diameter	mm	6 +/- 0.1	6 +/- 0.1	6 +/- 0.1
Motor length	mm	9 +/- 0.2	9 +/- 0.2	9 +/- 0.2
Terminal resistance	Ω	14.2	7.8	7.7
No-load speed	rpm	34000	49000	43500
No-load current	mA	40	50	65
Stall torque	mNm	0.12	0.17	0.18
Stall current	mA	211	385	390
Load torque	mNm	0.05	0.05	0.05
Load speed	rpm	19470	34590	31280
Load current	mA	110	150	160

Drawings



2D drawing L0609N3M

Speed/Thrust Curves



Characteristics Curve / Model L0609N3M58-340-3.0

6mm Mini Coreless DC Motor

L0610N5M

L0610N5M 6mm Mini Coreless DC Motors are engineered for precision, reliability, and compact installations requiring high performance. Designed with precious metal brushes and a coreless rotor structure, these motors ensure smooth operation, reduced rotor inertia (0.01 gcm^2), and rapid acceleration. Weights start as low as 1.2 g, supporting integration where space and weight are at a premium.

- **Voltage options:** 3.2 V, 3.4 V, or 5.0 V
- **No-load speed:** Up to 66,500 rpm
- **Max. output power:** Up to 0.9 W
- **High efficiency:** Up to 55.9%
- **Operating temperature:** -20°C to $+80^{\circ}\text{C}$
- **Stall torque:** Up to 0.52 mNm

Applications:

- Mini UAV propulsion and actuation
- Remote control hobby products
- Small household appliances

Benefits: The L0610N5M series delivers stable, high-rpm performance with minimal noise and vibration. Customization options include extended shaft or lead wire lengths, unique coil windings, and gearhead integration. This makes them a versatile choice for demanding miniature drive systems requiring precise, reliable motion in a compact form factor.

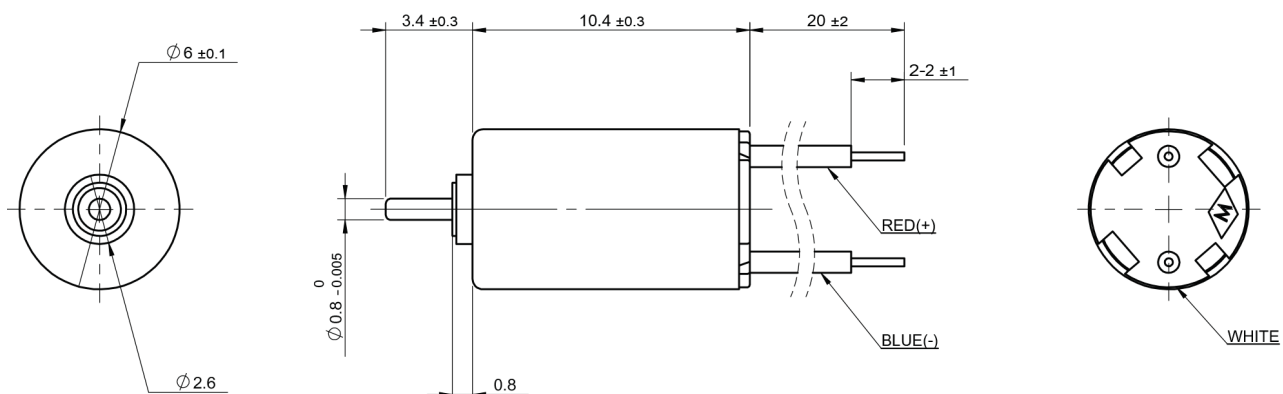


<https://www.kocomotion.de/produkt/l0610n5m/>



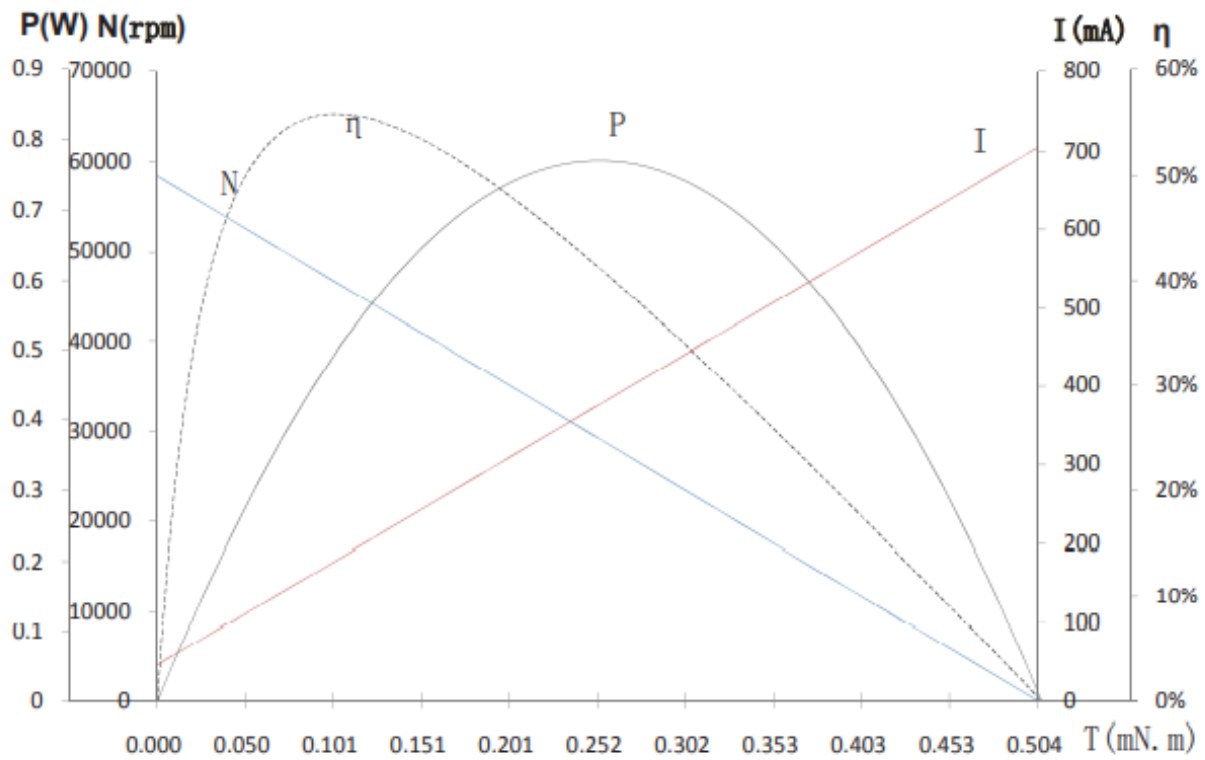
Characteristics	Unit	L0610N5M11-585-5.0	L0610N5M22-665-3.4	L0610N5M05-550-3.2
Rated voltage	V	5.0	3.4	3.2
Max. output power	W	0.77	0.9	0.55
Max. efficiency	%	55.9	51.6	46.6
Back-EMF constant	mV/rpm	0.08	0.05	0.05
Torque constant	mNm/A	0.76	0.45	0.50
Speed/torque gradient	rpm/mNm	116071	127639	145503
Rotor inertia	gcm ²	0.01	0.01	0.01
Weight	g	1.2	1.2	1.3
Operating temperature	°C	-20~+80	-20~+80	-20~+80
Outer diameter	mm	6 +/- 0.1	6 +/- 0.1	6 +/- 0.1
Motor length	mm	10.4 +/- 0.3	10.4 +/- 0.3	10.4 +/- 0.3
Terminal resistance	Ω	7.1	2.7	3.8
No-load speed	rpm	58500	66500	55000
No-load current	mA	45	100	85
Stall torque	mNm	0.5	0.52	0.38
Stall current	mA	704	1259	842
Load torque	mNm	0.05	0.05	0.05
Load speed	rpm	52700	60120	47720
Load current	mA	110	210	190

Drawings



2D drawing L0610N5M

Speed/Thrust Curves



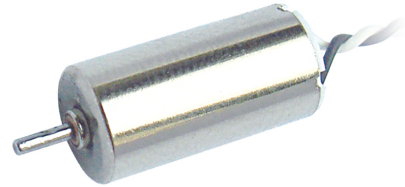
Characteristics Curve/ Mode L0610N5M11-585-5.0

6mm Micro DC Coreless Motor, 4.5V

L0612N3M

L0612N3M 6mm 4.5V Micro DC Coreless Motor Series

delivers high speed, reliability, and compact performance to your precision miniature applications. Utilizing **precious metal brushes** for consistent electrical connectivity, this series achieves no-load speeds up to **55,000 rpm** while maintaining low rotor inertia (0.014 gcm²) and a lightweight 1.3 g design.



• Technical Specifications (Representative Model

L0612N3M08-550-4.5):

- Voltage: 4.5 V
- Stall Torque: 0.45 mNm
- No-Load Current: 60 mA
- Max. Efficiency: 49.8%
- Operating Temperature Range: -20°C to +80°C
- Terminal Resistance: 6.5 Ω

• Key Benefits:

- Ultra-compact size and minimal weight optimize space and payload
- High rotational speeds support dynamic, responsive actuation
- Flexible customization with gearhead integration, shaft and wire options, and special coil windings

• Typical Applications:

- Mini UAV propulsion and actuation
- Precision remote control hobby models
- Small household appliances demanding reliable miniature drive power

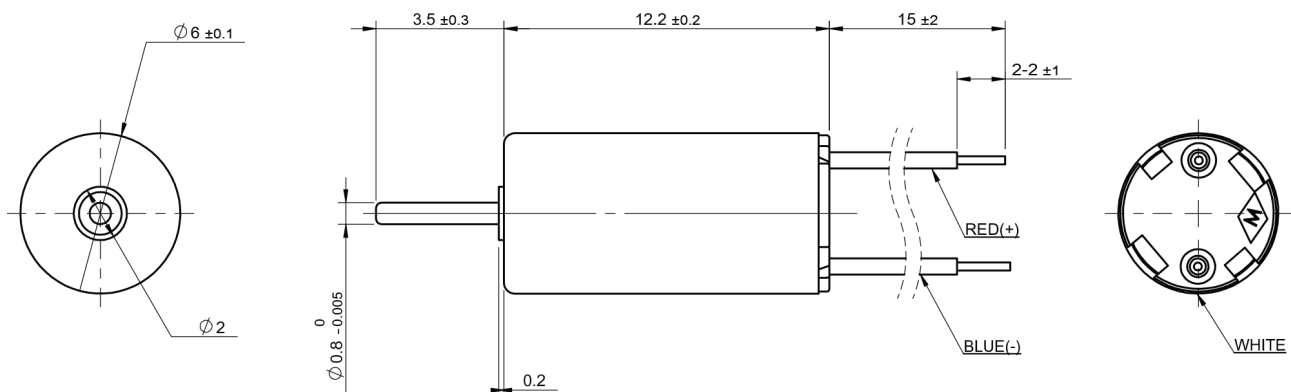
With its blend of high performance, durability, and configurability, the L0612N3M family is the preferred choice for designers and engineers targeting advanced micro-motion solutions.



<https://www.kocomotion.de/produkt/l0612n3m/>

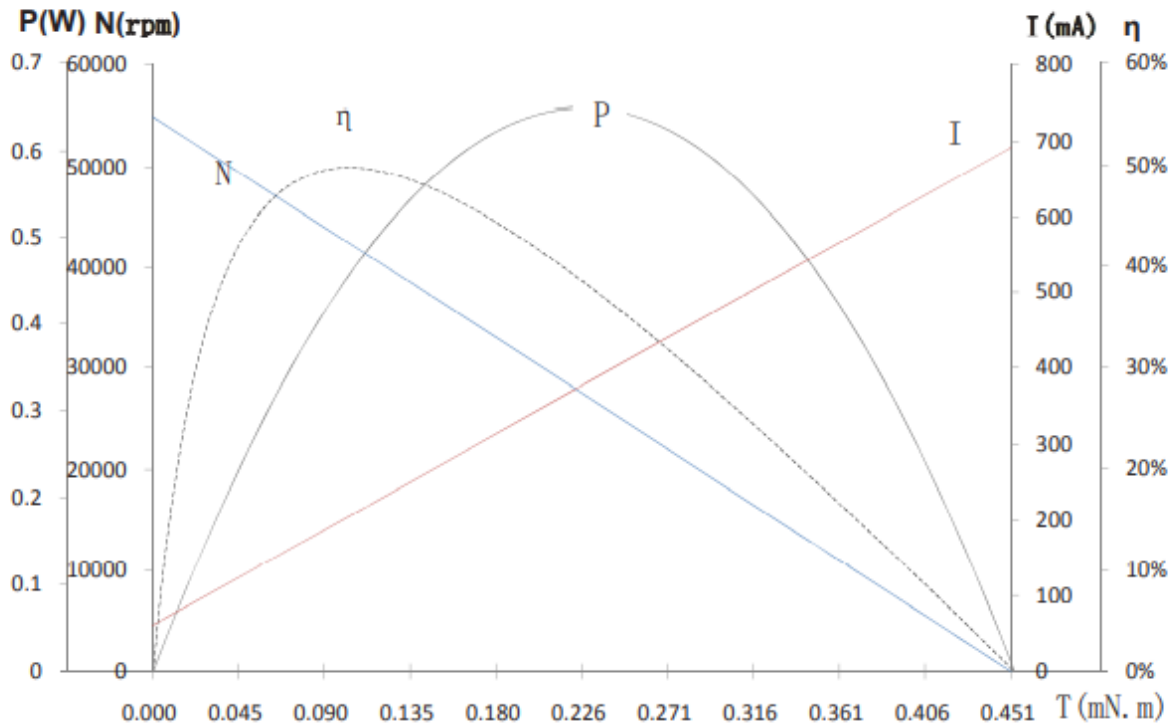
Characteristics	Unit	L0612N3M08-550-4.5	L0612N3M90-160-3.0	L0612N3M63-250-4.5
Rated voltage	V	4.5	3.0	4.5
Max. output power	W	0.7	0.05	0.17
Max. efficiency	%	49.8	45.8	46.1
Back-EMF constant	mV/rpm	0.07	0.17	0.16
Torque constant	mNm/A	0.71	1.6	1.54
Speed/torque gradient	rpm/mNm	121951	145727	93633
Rotor inertia	gcm ²	0.014	0.014	0.014
Weight	g	1.3	1.3	1.3
Operating temperature	°C	-20~+80	-20~+80	-20~+80
Outer diameter	mm	6 +/- 0.1	6 +/- 0.1	6 +/- 0.1
Motor length	mm	12.2 +/- 0.2	12.2 +/- 0.2	12.2 +/- 0.2
Terminal resistance	Ω	6.5	39	23.3
No-load speed	rpm	55000	16030	25000
No-load current	mA	60	8	20
Stall torque	mNm	0.45	0.11	0.27
Stall current	mA	692	77	193
Load torque	mNm	0.05	0.05	0.05
Load speed	rpm	48900	8740	20320
Load current	mA	130	40	50

Drawings



2D drawing L0612N3M

Speed/Thrust Curves

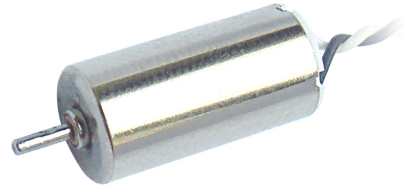


Characteristics Curve / Model L0612N3M08-550-4.5

6mm Mini Coreless DC Motors

L0612N5M

L0612N5M 6mm Coreless DC Motor Series offers a compact, high-performance solution for micro motion applications requiring speed, efficiency, and precision. Featuring **precious metal brushes**, these coreless motors ensure reliable electrical contact and extended operational life.



- **Voltage:** 3.2-3.7 V
- **No-load Speed:** Up to 76,400 rpm
- **Stall Torque:** Up to 0.91 mNm
- **Max. Output Power:** 1.0-1.8 W
- **Max. Efficiency:** Up to 60.8%
- **Weight:** 1.3 g
- **Operating Temperature:** -20°C to +100°C

With a compact 6mm diameter and minimal rotor inertia (0.014 gcm²), these motors are ideal for rapid response and precise control. The low no-load current and high speed/torque gradient make them well-suited for battery-powered devices.

Typical Applications:

- Mini UAVs and drones
- Remote control hobby products
- Small household appliances

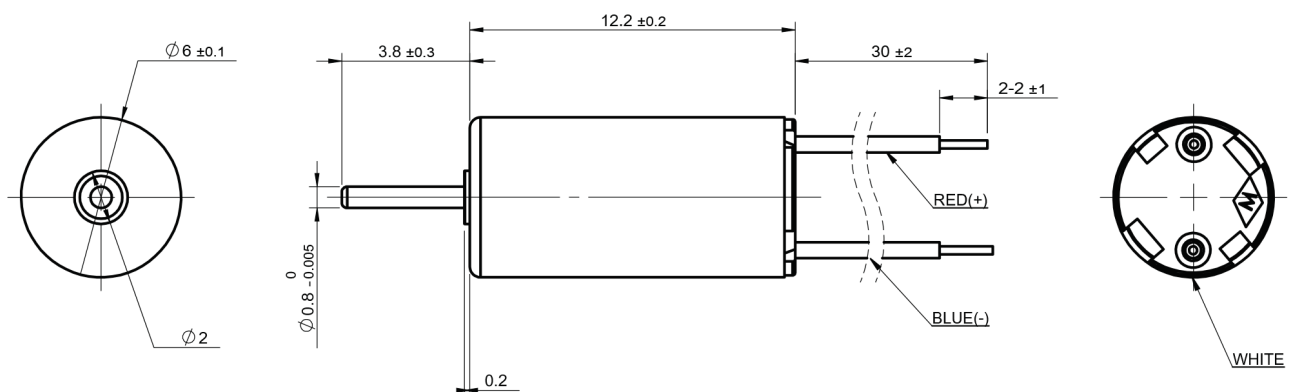
Customization options include **lead wires length**, **shaft length**, **special coils**, and **gearheads**, supporting diverse design requirements. The L0612N5M series delivers premium performance for any application where space is at a premium and efficiency is essential.



<https://www.kocomotion.de/produkt/l0612n5m/>

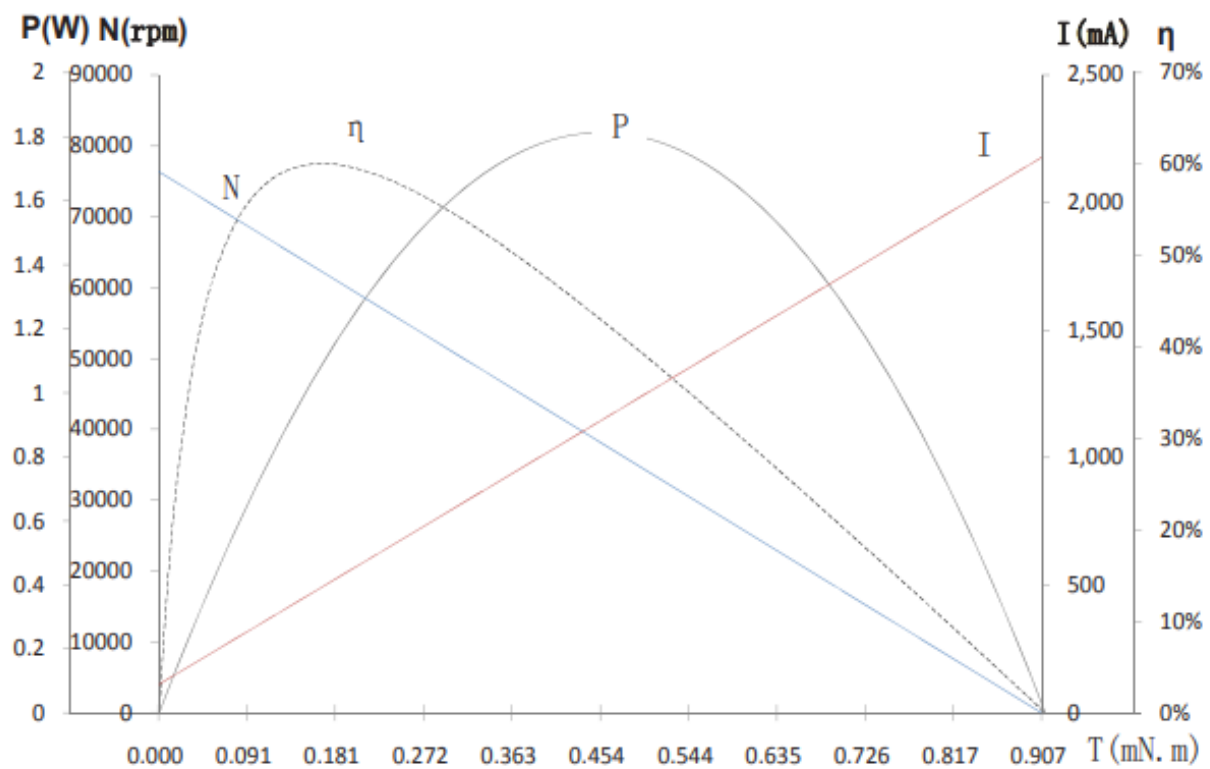
Characteristics	Unit	L0612N5M55-764-3.7	L0612N5M20-500-3.2	L0612N5M78-730-3.7
Rated voltage	V	3.7	3.2	3.7
Max. output power	W	1.8	1.0	1.5
Max. efficiency	%	60.1	58.7	60.8
Back-EMF constant	mV/rpm	0.05	0.06	0.05
Torque constant	mNm/A	0.44	0.58	0.46
Speed/torque gradient	rpm/mNm	84234	62972	90123
Rotor inertia	gcm ²	0.014	0.014	0.014
Weight	g	1.3	1.3	1.3
Operating temperature	°C	-20~+100	-20~+100	-20~+100
Outer diameter	mm	6 +/- 0.1	6 +/- 0.1	6 +/- 0.1
Motor length	mm	12.2 +/- 0.2	12.2 +/- 0.2	12.2 +/- 0.2
Terminal resistance	Ω	1.7	2.2	2.0
No-load speed	rpm	76400	50000	73000
No-load current	mA	110	80	90
Stall torque	mNm	0.91	0.79	0.81
Stall current	mA	2176	1455	1850
Load torque	mNm	0.05	0.05	0.05
Load speed	rpm	72190	46850	68490
Load current	mA	220	170	200

Drawings



2D drawing L0612N5M

Speed/Thrust Curves



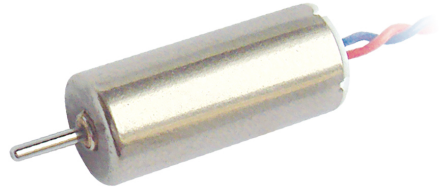
Characteristic Curve / Mode L0612N5M55-764-3.7

6mm Mini Coreless DC Motors

L0614N5M

L0614N5M Series – 6mm Mini Coreless DC Motors

- **Compact Power:** These 6mm diameter coreless DC motors deliver high rotational speeds from 12,540 rpm up to 50,000 rpm, with models supporting voltages between 3.0V and 3.4V.
- **High Efficiency & Precision:** With maximum efficiencies up to 63.1% and precious metal commutation, this series ensures reliable low-voltage operation and consistent performance.
- **Lightweight & Agile:** Weighing just 1.7g, the L0614N5M motors offer minimal rotor inertia (0.016 gcm^2), making them exceptionally responsive for fast acceleration and deceleration cycles.
- **Technical Highlights:** Terminal resistance ranges from 1.7 to 23.1Ω across variants. Stall torques span 0.26 to 1.1 mNm, with no-load currents as low as 7.4 mA and stall currents up to 1882 mA. All models operate reliably from -20°C to $+65^\circ\text{C}$.
- **Application Versatility:** Ideally suited for mini UAVs, RC hobby models, and compact household devices that require robust performance with strict space and weight constraints.
- **Customization Options:** Tailorable lead wire and shaft lengths, special coil versions, and full gearhead compatibility support diverse integration needs.

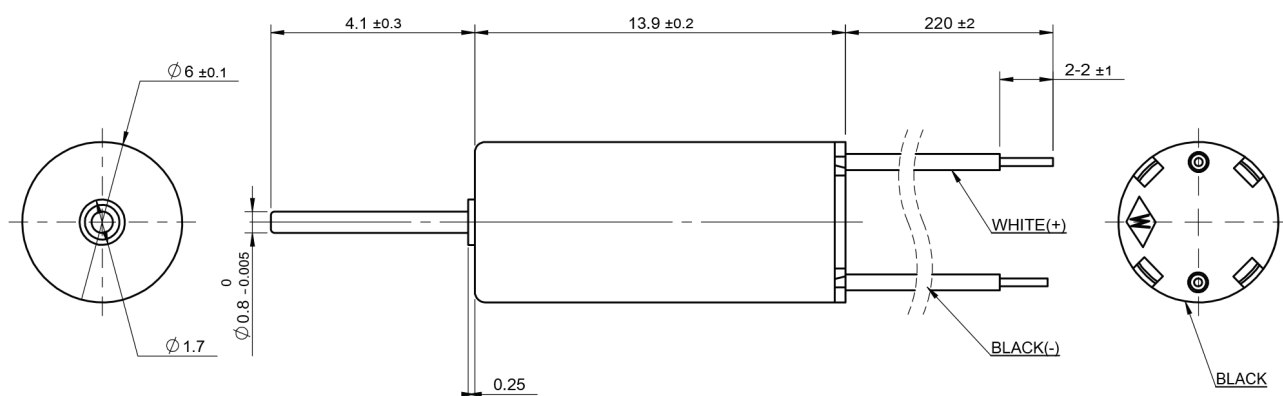


The L0614N5M family delivers reliable, high-speed miniature motion solutions for demanding, space-constrained applications in industrial, consumer, and hobbyist markets.


<https://www.kocomotion.de/produkt/l0614n5m/>

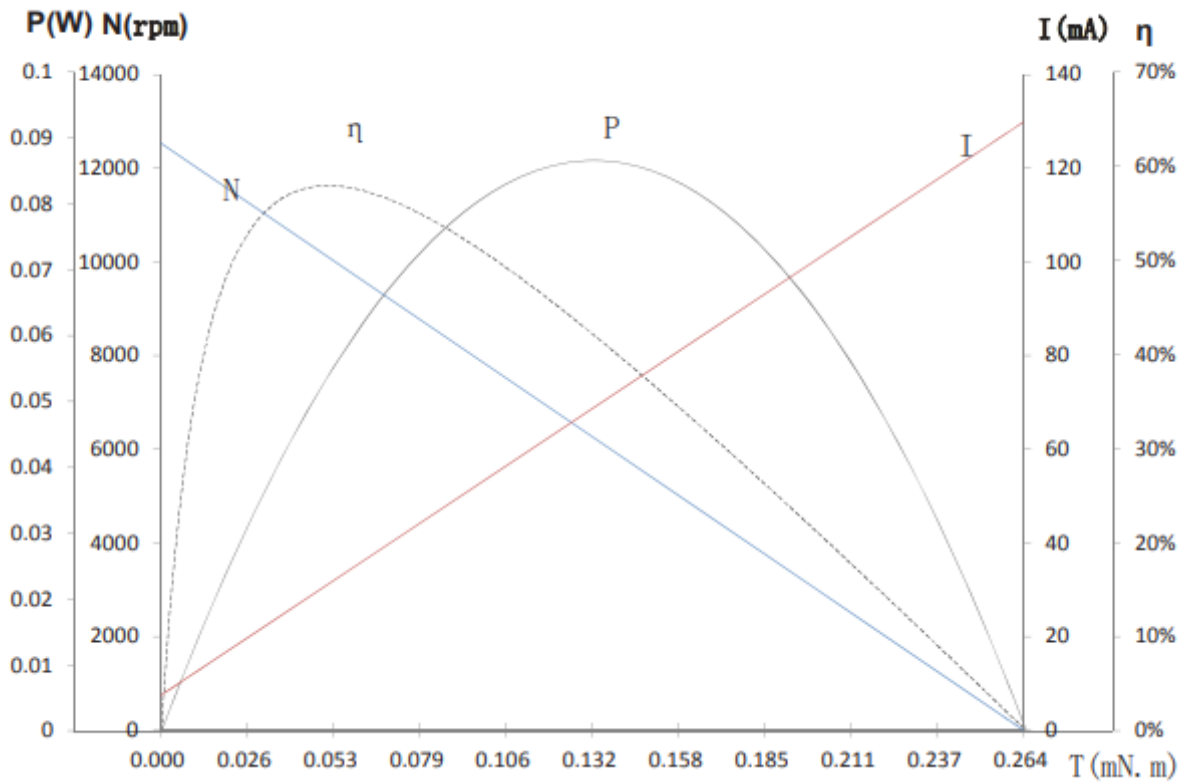
Characteristics	Unit	L0614N5M44-125-3.0	L0614N5M28-420-3.4	L0614N5M67-500-3.2
Rated voltage	V	3.0	3.4	3.2
Max. output power	W	0.09	1.0	1.4
Max. efficiency	%	58.1	61.8	63.1
Back-EMF constant	mV/rpm	0.23	0.08	0.06
Torque constant	mNm/A	2.15	0.74	0.59
Speed/torque gradient	rpm/mNm	47500	45652	47393
Rotor inertia	gcm ²	0.016	0.016	0.016
Weight	g	1.7	1.7	1.7
Operating temperature	°C	-20~+65	-20~+65	-20~+65
Outer diameter	mm	6 +/- 0.1	6 +/- 0.1	6 +/- 0.1
Motor length	mm	13.9 +/- 0.2	13.9 +/- 0.2	13.9 +/- 0.2
Terminal resistance	Ω	23.1	2.6	1.7
No-load speed	rpm	12540	42000	50000
No-load current	mA	7.4	60	80
Stall torque	mNm	0.26	0.9	1.1
Stall current	mA	130	1308	1882
Load torque	mNm	0.05	0.1	0.1
Load speed	rpm	10170	37430	45260
Load current	mA	30	200	250

Drawings



2D drawing L0614N5M

Speed/Thrust Curves

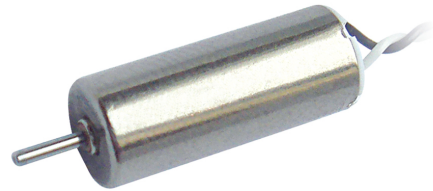


Characteristic Curve/ Model L0614N5M44-125-3.0

6mm DC Coreless Motor – Precious Metal Commutation

L0615N5M

L0615N5M 6mm DC Coreless Motors with Precious Metal Commutation are engineered to meet demanding requirements for miniature drive solutions across a variety of precision applications. Their **coreless rotor design** ensures minimal inertia (0.016 gcm^2), enabling exceptionally fast acceleration and dynamic response.



- **Key Technical Highlights:**

- Outer diameter: 6mm, lightweight construction (1.8g)
- Voltage range: 2.5–3.4V options
- No-load speed: up to 43,050 rpm
- Stall torque: up to 1.1 mNm
- Maximum output power: up to 1.1 W
- Max. efficiency: up to 63.3%
- Operating temperature: -20 to +120°C

- **Practical Applications:**

- Mini UAV propulsion & actuation systems
- Remote control hobby products—micro vehicles, robotics
- Precision small household appliances

- **Customizable Options:**

- Lead wire length
- Shaft length
- Specialized coil windings
- Integrated gearheads for torque/speed adaptation

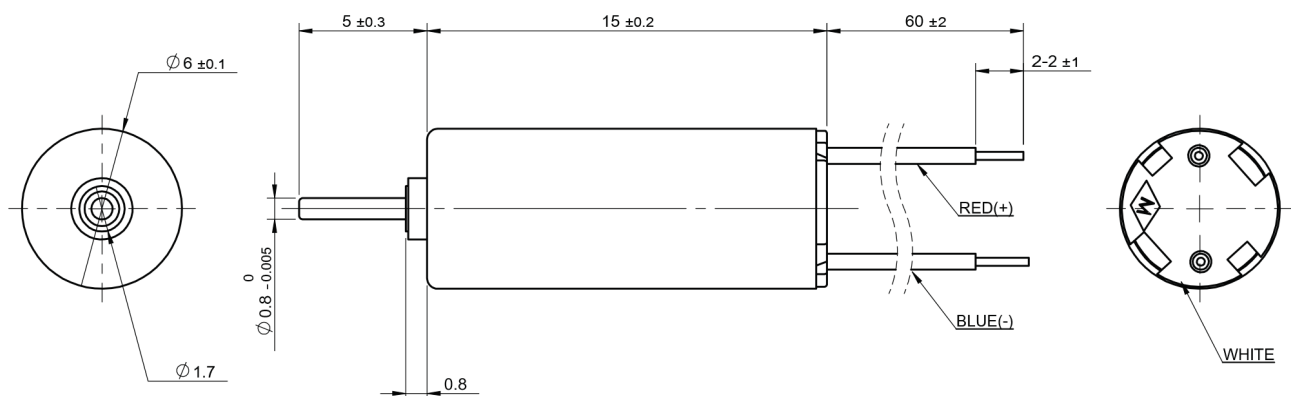
With their versatile customization and robust performance, the L0615N5M motors are particularly suited for engineers seeking compact, high-efficiency motion solutions without sacrificing precision or reliability. Precious metal brushes ensure consistent, low-noise commutation for demanding portable or battery-powered devices.



<https://www.kocomotion.de/produkt/l0615n5m/>

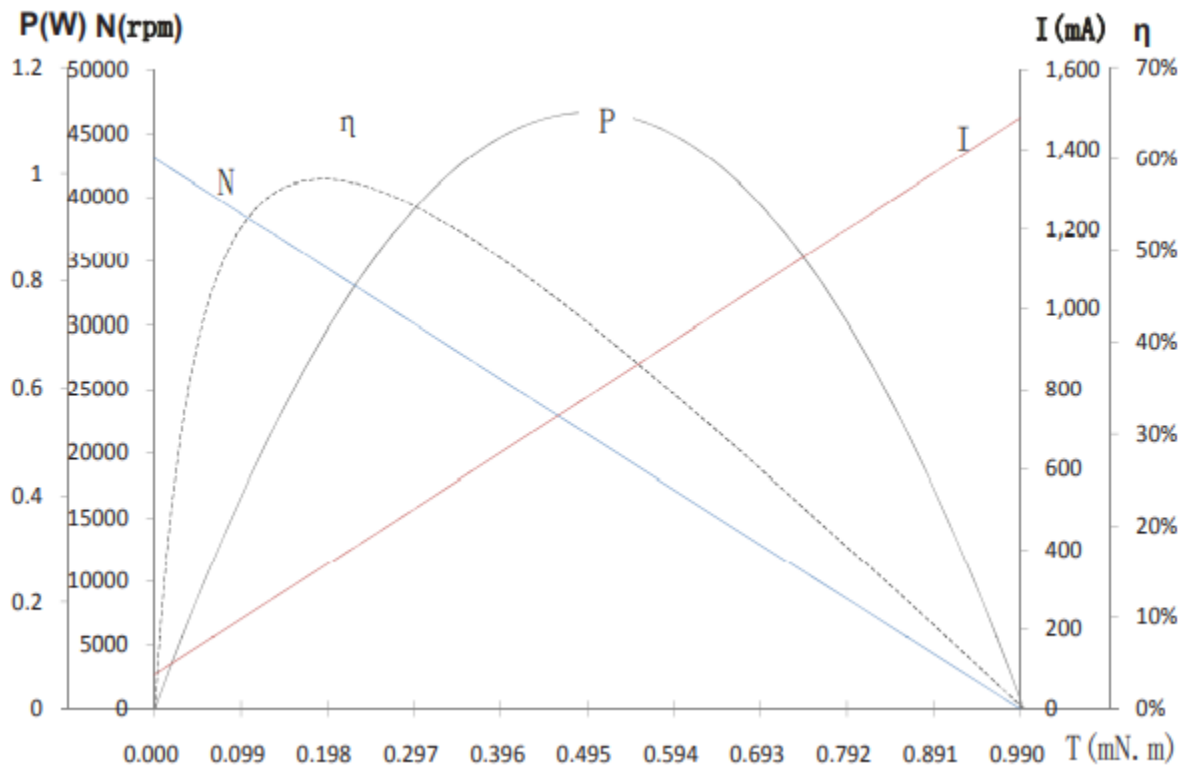
Characteristics	Unit	L0615N5M29-430-3.4	L0615N5M35-387-2.5	L0615N5M49-360-2.5
Rated voltage	V	3.4	2.5	2.5
Max. output power	W	1.1	1	1
Max. efficiency	%	57.8	61.6	63.3
Back-EMF constant	mV/rpm	0.07	0.06	0.07
Torque constant	mNm/A	0.71	0.59	0.64
Speed/torque gradient	rpm/mNm	43485	40021	33119
Rotor inertia	gcm ²	0.016	0.016	0.016
Weight	g	1.8	1.8	1.8
Operating temperature	°C	-20~+120	-20~+120	-20~+120
Outer diameter	mm	6 +/- 0.1	6 +/- 0.1	6 +/- 0.1
Motor length	mm	15 +/- 0.2	15 +/- 0.2	15 +/- 0.2
Terminal resistance	Ω	2.3	1.45	1.4
No-load speed	rpm	43050	38700	36000
No-load current	mA	85	80	75
Stall torque	mNm	1	1	1.1
Stall current	mA	1478	1724	1786
Load torque	mNm	0.15	0.15	0.15
Load speed	rpm	36530	32700	31030
Load current	mA	300	340	310

Drawings



2D drawing L0615N5M

Speed/Thrust Curves



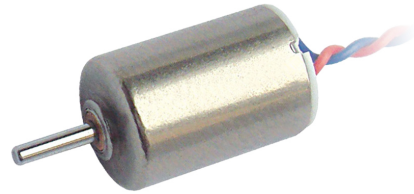
Characteristic Curve / Mode L0615N5M29-430-3.4

7mm Micro Coreless DC Motor

L0710N5M

L0710N5M Series - 7mm Micro Coreless DC Motors

- **Ultra-Compact:** 7mm diameter, ideal for space-constrained systems and precision assemblies.
- **High-Speed Coreless Design:** Delivers no-load speeds up to 78,050 rpm and high efficiency (up to 58.9%), with minimal cogging for smooth operation.
- **Lightweight, High Performance:** Weighs just 1.6g, making it suitable for airborne and mobile devices where weight and power density are critical.
- **Reliable Construction:** Features precious metal brushes for superior electrical contact and long service life.
- **Wide Operating Range:** Functions between -20°C and +100°C, accommodating demanding environmental conditions.



Key Specifications (typical range):

- Voltage: 3.0 – 8.0 V
- No-load speed: 32,500 – 78,050 rpm
- Max. output power: up to 1.9 W
- Stall torque: up to 1 mNm
- Max. efficiency: up to 58.9%

Applications:

- Miniature unmanned aerial vehicles (UAVs) and drones
- Remote control hobby products (cars, helicopters, boats)
- Small household appliances, compact gadgets, and portable devices

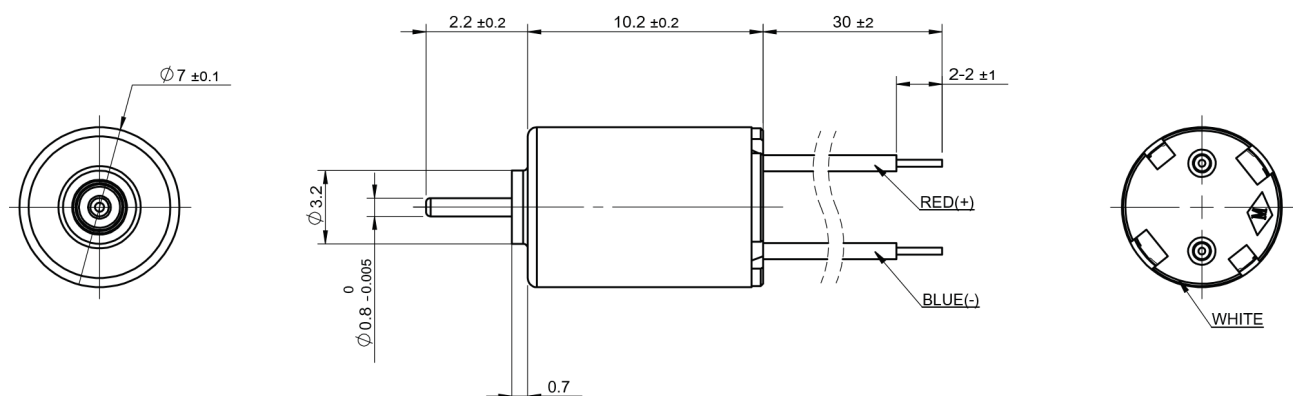
Customization Options: Available options include tailored lead wire length, shaft length, special coil configurations, and integration with gearheads for precise speed and torque requirements. The L0710N5M family combines performance, size, and customization for advanced motion control applications.



<https://www.kocomotion.de/produkt/l0710n5m/>

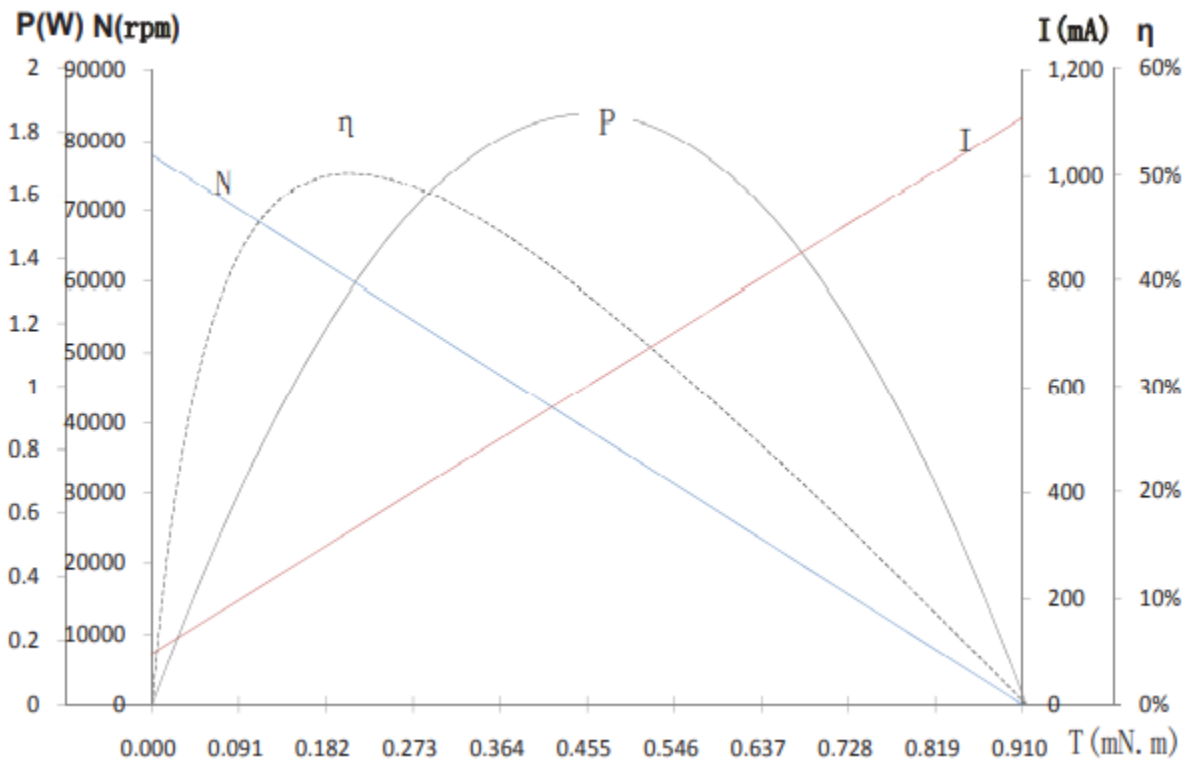
Characteristics	Unit	L0710N5M61-780-8.0	L0710N5M51-325-3.0	L0710N5M08-618-5.0
Rated voltage	V	8.0	3.0	5.0
Max. output power	W	1.9	0.29	1.65
Max. efficiency	%	50.2	45.4	58.9
Back-EMF constant	mV/rpm	0.09	0.08	0.08
Torque constant	mNm/A	0.9	0.79	0.73
Speed/torque gradient	rpm/mNm	85769	96726	60827
Rotor inertia	gcm ²	0.02	0.02	0.02
Weight	g	1.6	1.6	1.6
Operating temperature	°C	-20~+100	-20~+100	-20~+100
Outer diameter	mm	7 +/- 0.1	7 +/- 0.1	7 +/- 0.1
Motor length	mm	10.2 +/- 0.2	10.2 +/- 0.2	10.2 +/- 0.2
Terminal resistance	Ω	7.2	6.3	3.4
No-load speed	rpm	78050	32500	61800
No-load current	mA	95	50	80
Stall torque	mNm	0.9	0.3	1
Stall current	mA	1110	480	1470
Load torque	mNm	0.55	0.12	0.12
Load speed	rpm	30880	20890	54500
Load current	mA	710	200	240

Drawings



2D drawing L0710N5M

Speed/Thrust Curves



Characteristics Curve / Model L0710N5M61-780-8.0

3.4V 7mm Coreless DC Motors

L0716N5M

The **L0716N5M** family offers precision-engineered 7mm diameter coreless DC motors operating at 2.5–3.4V. Designed with **precious metal brushes** for low contact resistance and extended lifespan, these motors deliver exceptional performance in a compact 2.5 g package.

- **High Speed & Efficiency:** Achieve up to 43,000 rpm no-load speed (max. efficiency up to 71.6%) with robust torque densities for demanding miniature actuation.
- **Low Inertia, Responsive Control:** Rotor inertia of just 0.05 gcm² ensures fast acceleration and precise speed regulation—vital for applications requiring dynamic motion control.
- **Performance Options:** Models span voltages from 2.5V to 3.4V, supporting diverse torque and power output needs. Key specs include terminal resistances (0.66–4.7 Ω), stall torques up to 2 mNm, and wide operating temperature (-20 to +100°C).

Applications include mini UAV propulsion, remote control hobby mechanisms, and performance-critical small appliances.

- Mini UAVs
- Remote control hobby products
- Small household appliances

Customization options are available for lead wire length, shaft length, special coil configurations, and integration with gearheads, enabling optimal adaptation to bespoke project requirements. The L0716N5M series provides a compact, reliable drive solution for precise, lightweight systems.

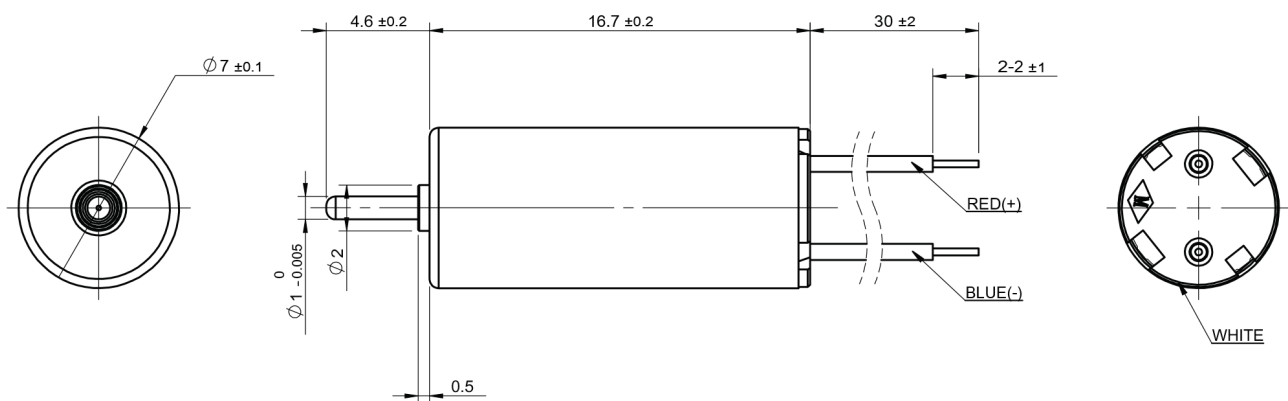


<https://www.kocomotion.de/produkt/l0716n5m/>



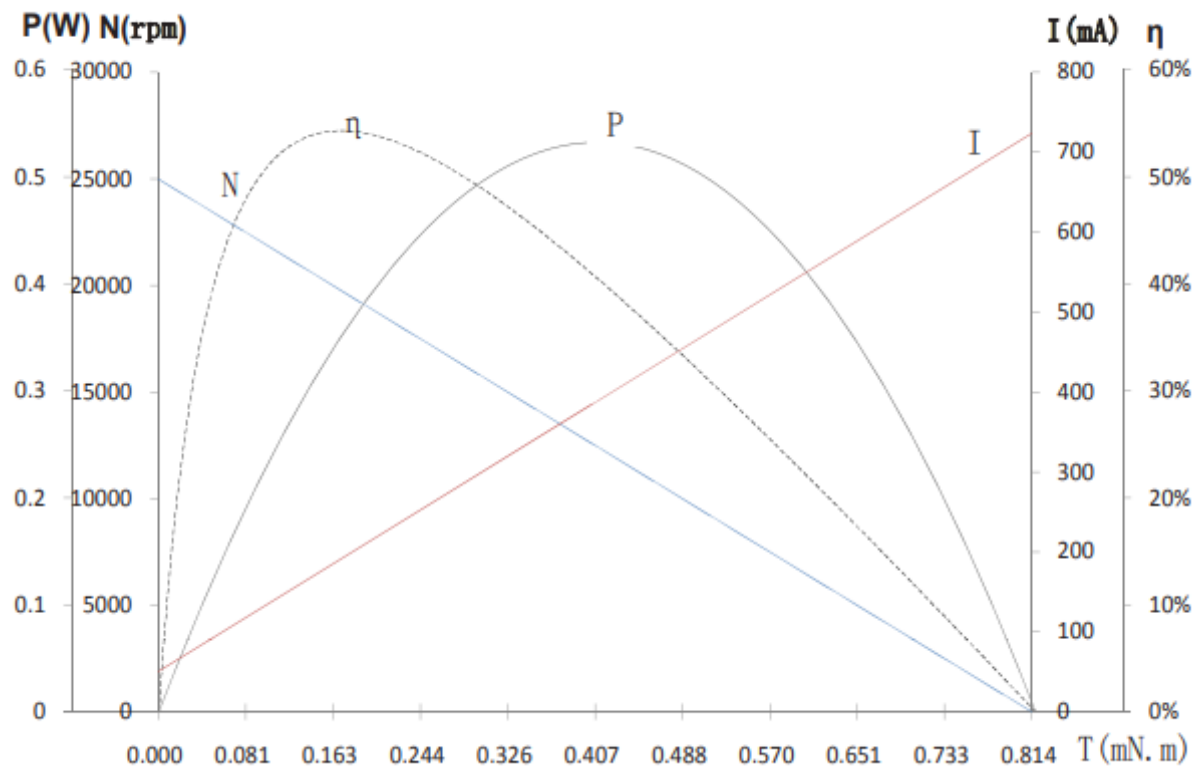
Characteristics	Unit	L0716N5M64-250-3.4	L0716N5M31-430-2.5	L0716N5M94-430-3.2
Rated voltage	V	3.4	2.5	3.2
Max. output power	W	0.53	2.3	2.2
Max. efficiency	%	54.6	71.6	68.0
Back-EMF constant	mV/rpm	0.13	0.06	0.07
Torque constant	mNm/A	1.21	0.54	0.69
Speed/torque gradient	rpm/mNm	30713	21457	22154
Rotor inertia	gcm ²	0.05	0.05	0.05
Weight	g	2.5	2.5	2.5
Operating temperature	°C	-20~+100	-20~+100	-20~+100
Outer diameter	mm	7 +/- 0.1	7 +/- 0.1	7 +/- 0.1
Motor length	mm	16.7 +/- 0.2	16.7 +/- 0.2	16.7 +/- 0.2
Terminal resistance	Ω	4.7	0.66	1.1
No-load speed	rpm	25000	43000	43000
No-load current	mA	50	90	90
Stall torque	mNm	0.81	2	1.9
Stall current	mA	720	3790	2910
Load torque	mNm	0.5	0.5	0.5
Load speed	rpm	9640	32270	31920
Load current	mA	460	1010	820

Drawings



2D drawing L0716N5M

Speed/Thrust Curves



Characteristics Curve / Mode L0714N5M15-400-6.0

8mm Micro DC Coreless Motor

L0816N5M

L0816N5M Series: 8mm Micro DC Coreless Motors

- **Compact & Lightweight:** Only 8mm in diameter with weights from 3.1 – 3.4g, ideal for size- and weight-sensitive designs.
- **High Performance:** Max speed up to 43,000 rpm, stall torque up to 1.99 mNm, and high efficiency (up to 67.6%) ensure responsive and reliable motion control.
- **Precious Metal Brush Technology:** Provides consistent electrical contact, reducing noise and ensuring long-term operational stability.
- **Technical Specs:**
 - Voltage range: 3.4V – 6.0V
 - Terminal resistance: 2.7Ω – 5.1Ω
 - No-load current: as low as 40mA
 - Operating temperature: -20°C to $+80^{\circ}\text{C}$
 - Rotor inertia: $0.07\text{ g}\cdot\text{cm}^2$
- **Application Versatility:** Designed for mini UAVs, remote control hobby products, and small household appliances requiring precision and fast acceleration.
- **Customization Options:** Available with customizable lead wire lengths, shaft lengths, special coil windings, and compatible gearheads for easy integration into diverse systems.

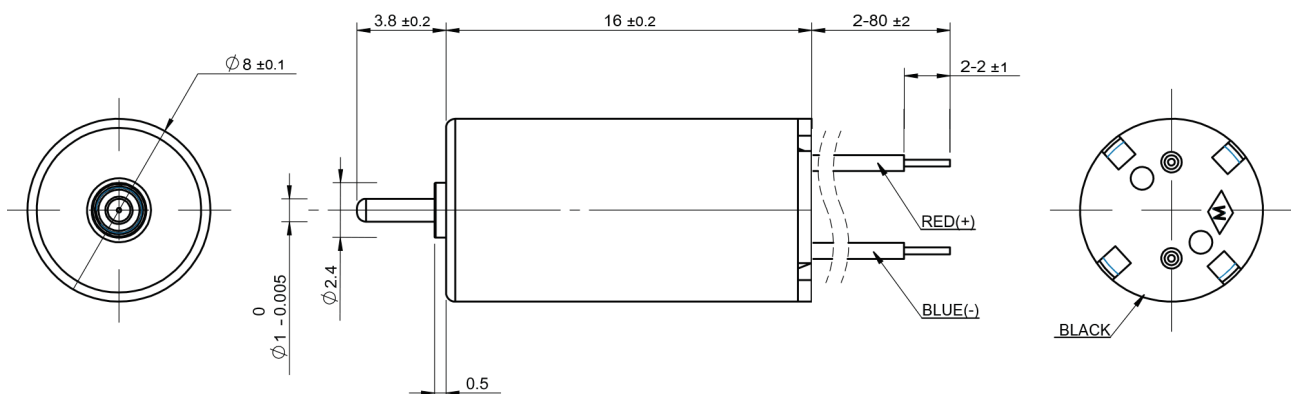


The L0816N5M family delivers exceptional speed, power-to-weight ratio, and efficiency, making it an optimal solution for advanced miniature motion applications where reliability, integration flexibility, and mechanical precision are critical.


<https://www.kocomotion.de/produkt/l0816n5m/>

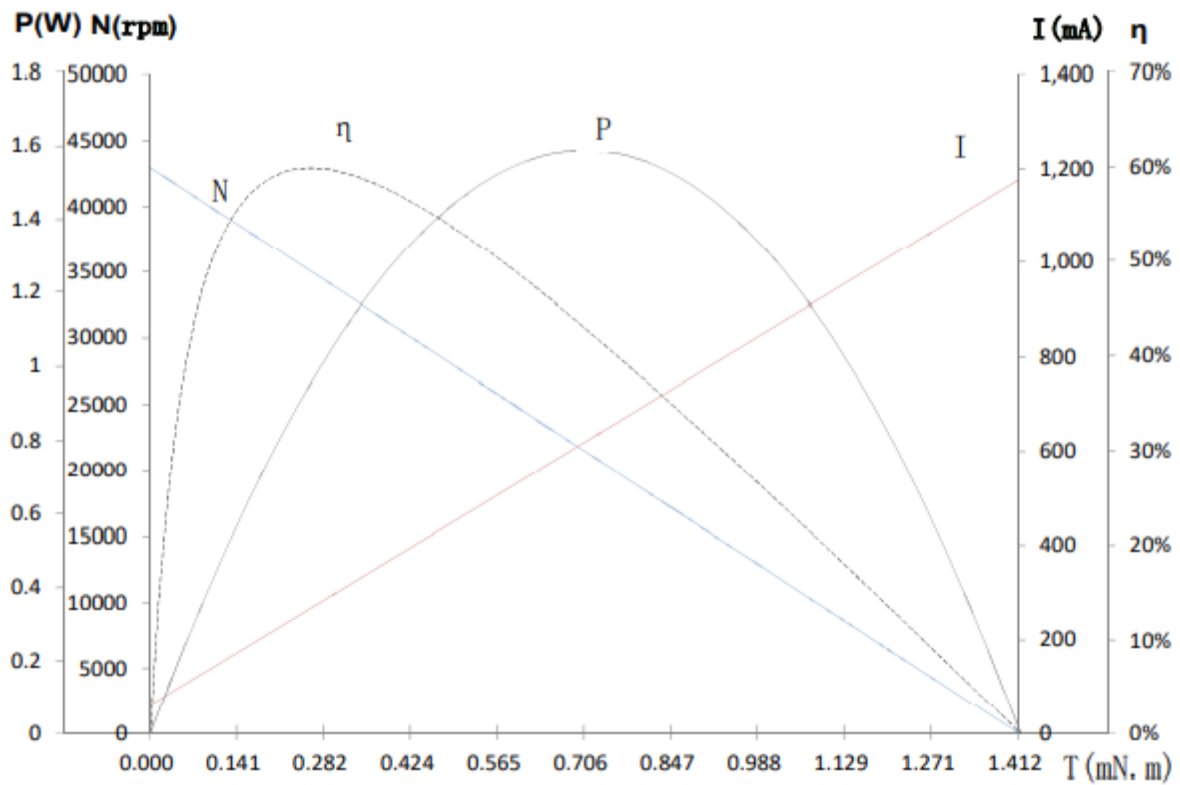
Characteristics	Unit	L0816N5M13-430-6.0	L0816N5M06-243-3.4	L0816N5M35-262-5.5
Rated voltage	V	6.0	3.4	5.5
Max. output power	W	1.59	1	1.37
Max. efficiency	%	59.9	67.6	59.4
Back-EMF constant	mV/rpm	0.13	0.14	0.2
Torque constant	mNm/A	1.26	1.29	1.9
Speed/torque gradient	rpm/mNm	30453	15409	13166
Rotor inertia	gcm ²	0.07	0.07	0.07
Weight	g	3.1	3.1	3.4
Operating temperature	°C	-20~+80	-20~+80	-20~+80
Outer diameter	mm	8 +/- 0.1	8 +/- 0.1	8 +/- 0.1
Motor length	mm	16 +/- 0.2	16 +/- 0.2	16 +/- 0.2
Terminal resistance	Ω	5.1	2.7	4.95
No-load speed	rpm	43000	24300	26200
No-load current	mA	60	40	60
Stall torque	mNm	1.4	1.6	1.99
Stall current	mA	1180	1260	1100
Load torque	mNm	0.5	0.5	0.5
Load speed	rpm	27770	16600	19620
Load current	mA	460	430	320

Drawings



2D drawing L0816N5M

Speed/Thrust Curves



Characteristics Curve / Model L0816N5M13-430-6.0

8mm Micro DC Coreless Motor, Precious Metal Brush

L0816N7M

L0816N7M 8mm Micro DC Coreless Motors deliver precision and efficiency in compact motion control applications. Engineered with precious metal brush technology, these motors ensure dependable operation and extended service life, even in demanding environments.



- **Key Technical Specifications:**

- Nominal voltage: 3.0 V
- Terminal resistance range: 21.5–36 Ω
- No-load speed: up to 6000 rpm
- No-load current: as low as 5 mA
- Stall torque: up to 0.6 mNm
- Max. efficiency: up to 62%
- Rotor inertia: 0.01 gcm²
- Operating temperature: -20 to +80 °C
- Lightweight construction: 3.7 g

- **Main Applications:**

- Mini UAVs
- Remote control hobby products
- Small household appliances

- **Available Options:**

- Customizable lead wire and shaft length
- Special coil configurations
- Compatible gearheads for enhanced torque

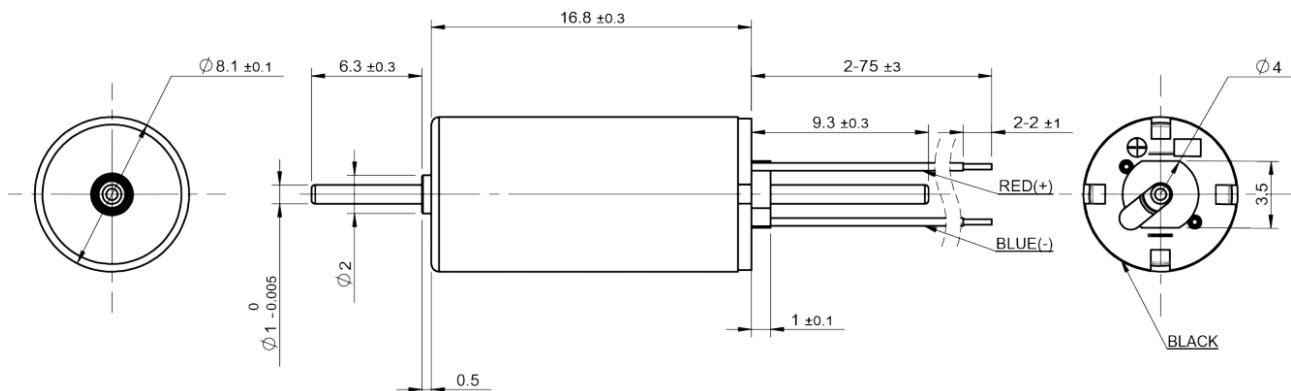
With compact dimensions and optimized power-to-weight ratio, the L0816N7M motors are the preferred choice for applications demanding precise speed, low inertia, and consistent performance. These features, combined with configuration flexibility, make them highly versatile for OEM and engineering projects in portable, miniature drive systems.



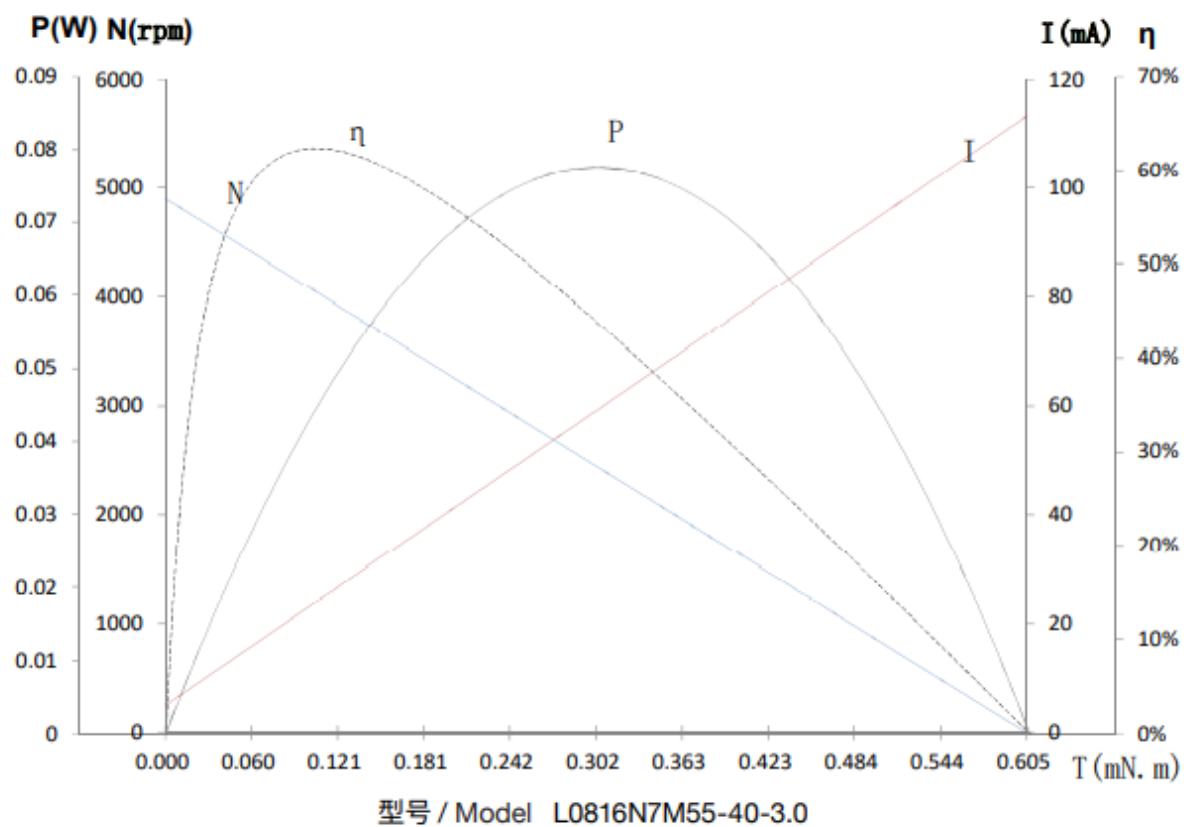
<https://www.kocomotion.de/produkt/l0816n7m/>

Motor Characteristics	Unit	L0816N7M55-49-3.0	L0816N7M54-45-3.0	L0816N7M006065-60-3.0
Rated voltage	V	3.0	3.0	3.0
Max. output power	W	0.1	0.1	0.1
Max. efficiency	%	62	57.2	58.7
Back-EMF constant	mV/rpm	0.59	0.63	0.47
Torque constant	mNm/A	5.59	5.98	4.5
Speed/torque gradient	rpm/mNm	8167	9574	10000
Rotor inertia	gcm ²	0.01	0.01	0.01
Weight	g	3.7	3.7	3.7
Operating temperature	°C	-20~+80	-20~+80	-20~+80
Outer diameter	mm	8.1 +/- 0.1	8.1 +/- 0.1	8.1 +/- 0.1
Motor length	mm	16.8 +/- 0.3	16.8 +/- 0.3	16.8 +/- 0.3
Terminal resistance	Ω	26.5	36	21.5
No-load speed	rpm	4900	4500	6000
No-load current	mA	5	5	8
Stall torque	mNm	0.6	0.47	0.6
Stall current	mA	113	83	140
Load torque	mNm	0.3	0.3	0.3
Load speed	rpm	2450	1630	3000
Load current	mA	60	60	70

Drawings



Speed/Thrust Curves



Characteristics Curve / Model L0816N7M55-40-3.0

8mm DC Coreless Motor with Precious Metal Brushes

L0820N5M

L0820N5M 8mm DC Coreless Motor

- **Precision Design:** Features precious metal brushes and coreless construction for reliable, wear-resistant performance and smooth commutation.
- **Compact & Lightweight:** With an 8mm diameter and just 4.2g weight, the motor is ideal for size- and weight-critical applications.
- **High Performance:** Delivers up to 46,000 rpm no-load speed, stall torque up to 5.9 mNm, and maximum efficiencies reaching 73%. Output power ranges from 3.85W to 7.08W depending on model selection.
- **Broad Operating Range:** Works efficiently between -20°C and +120°C, supporting robust performance in varying environments.
- **Low Inertia, Fast Response:** Rotor inertia of 0.07 g·cm² ensures rapid acceleration and precise motion control.
- **Flexible Configuration:** Shaft length, lead wire length, special coils, and gearheads are available to meet specific integration needs.



Typical Applications:

- Mini UAV propulsion and actuation
- Remote control hobby products (RC cars, drones, boats)
- Small household appliances requiring compact, efficient drives

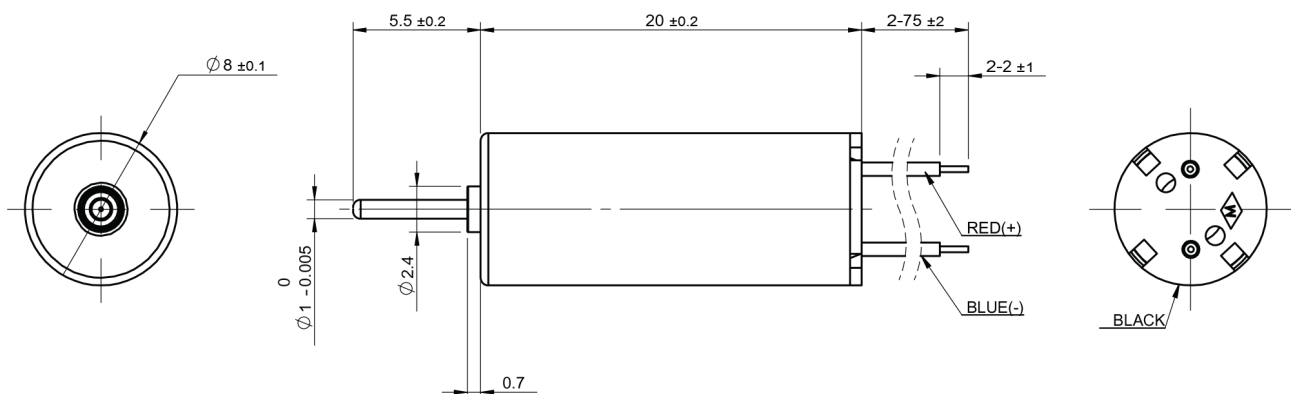
This motor series offers industry-standard performance in a micro package, making it a compelling choice for engineers demanding efficiency, customization, and consistent reliability in compact motion systems.



<https://www.kocomotion.de/produkt/l0820n5m/>

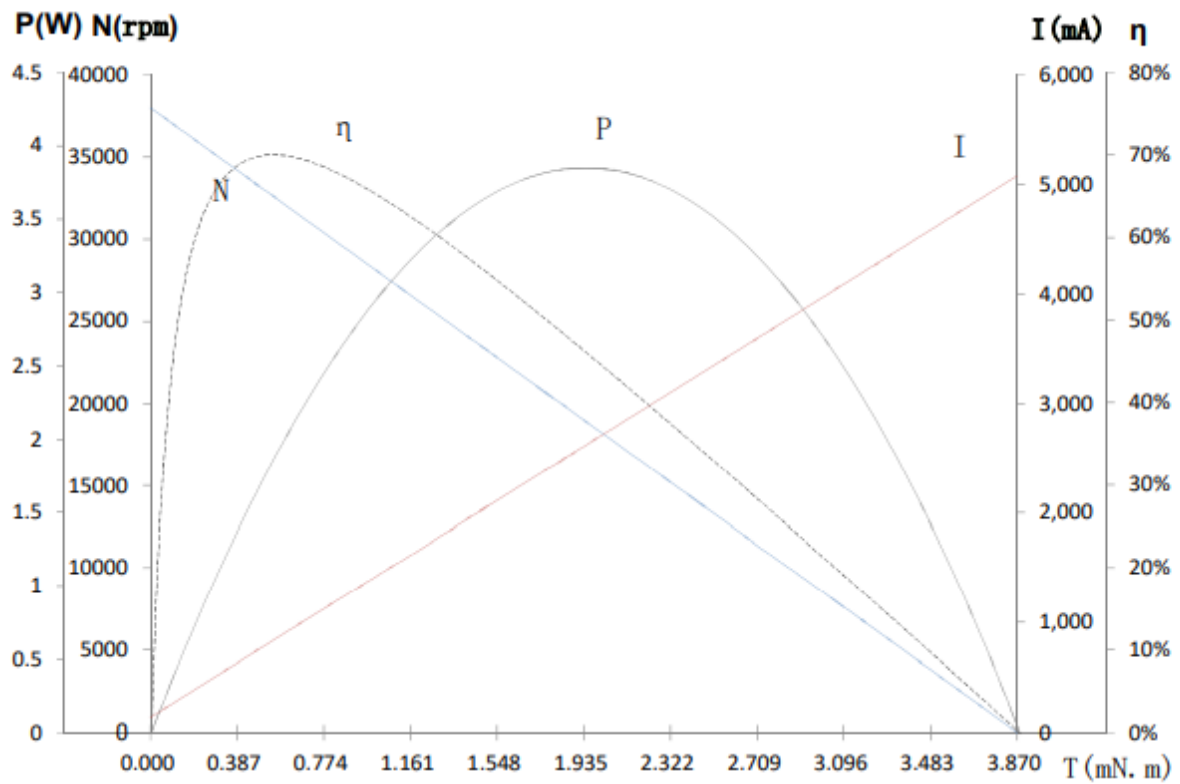
Characteristics	Unit	L0820N5M10-380-3.2	L0820N5M16-420-3.0	L0820N5M37-460-3.4
Rated voltage	V	3.2	3.0	3.4
Max. output power	W	3.85	5.39	7.08
Max. efficiency	%	70.1	73.0	72.1
Back-EMF constant	mV/rpm	0.08	0.07	0.07
Torque constant	mNm/A	0.78	0.67	0.69
Speed/torque gradient	rpm/mNm	9819	8571	7831
Rotor inertia	g·cm ²	0.07	0.07	0.07
Weight	g	4.2	4.2	4.2
Operating temperature	°C	-20~+120	-20~+120	-20~+120
Outer diameter	mm	8 +/- 0.1	8 +/- 0.1	8 +/- 0.1
Motor length	mm	20 +/- 0.2	20 +/- 0.2	20 +/- 0.2
Terminal resistance	Ω	0.63	0.4	0.39
No-load speed	rpm	38000	42000	46000
No-load current	mA	135	160	200
Stall torque	mNm	3.9	4.9	5.9
Stall current	mA	5080	7500	8720
Load torque	mNm	0.5	0.5	0.5
Load speed	rpm	33090	37710	42080
Load current	mA	770	910	930

Drawings



2D drawing L0820N5M

Speed/Thrust Curves



Characteristics Curve / Model L0820N5M10-380-3.2

8.5mm Mini Coreless DC Motor

L8.520N5M

L8.520N5M 8.5mm Mini Coreless Motor Series delivers high-performance motion in a compact, lightweight form factor. With precious metal brushes for efficient commutation, these motors are engineered for applications demanding reliability, smooth operation, and rapid acceleration.



- **High-Speed Operation:** No-load speeds up to 43,500 rpm (3.4V), supporting fast-response drive systems.
- **Compact & Lightweight:** Weighs as little as 4.2 g for minimal system mass; rotor inertia of only 0.07 gcm² ensures dynamic performance.
- **Durability & Efficiency:** Precious metal brushes, high max efficiency (up to 75%), and low terminal resistance (0.3-0.45 Ω) extend operational life and reduce power loss.
- **Precise Control:** Torque constants 0.73-0.77 mNm/A and wide operating temperature range (-20°C to +120°C) enable consistent performance in varied environments.
- **Customizability:** Options include lead wire length, shaft length, special coils, and gearheads to meet specific integration needs.

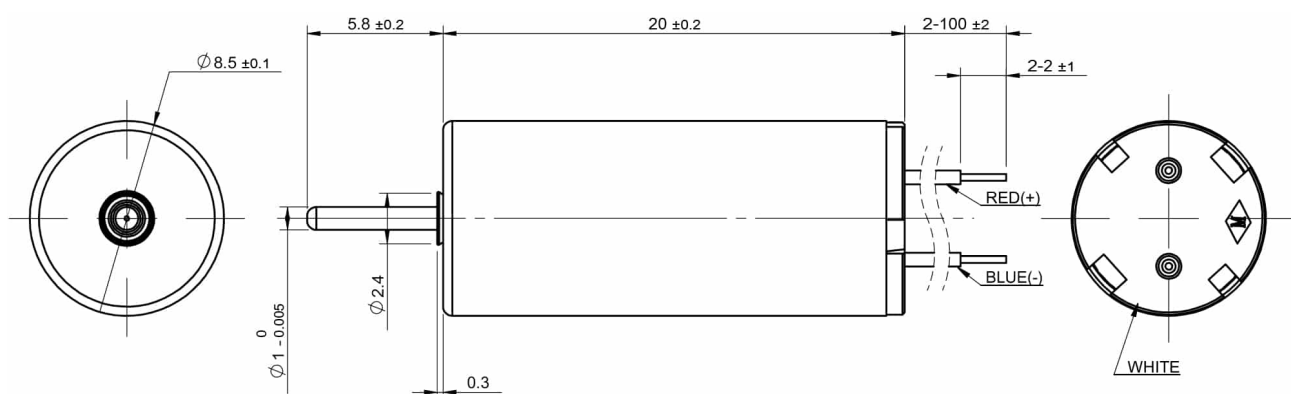
Typical applications include **mini UAV propulsion**, **remote control hobby products**, and **small household appliances** where high power density, smooth rotation, and long service life are critical. This series is engineered for demanding OEM use, offering reliable performance in tightly-constrained designs.



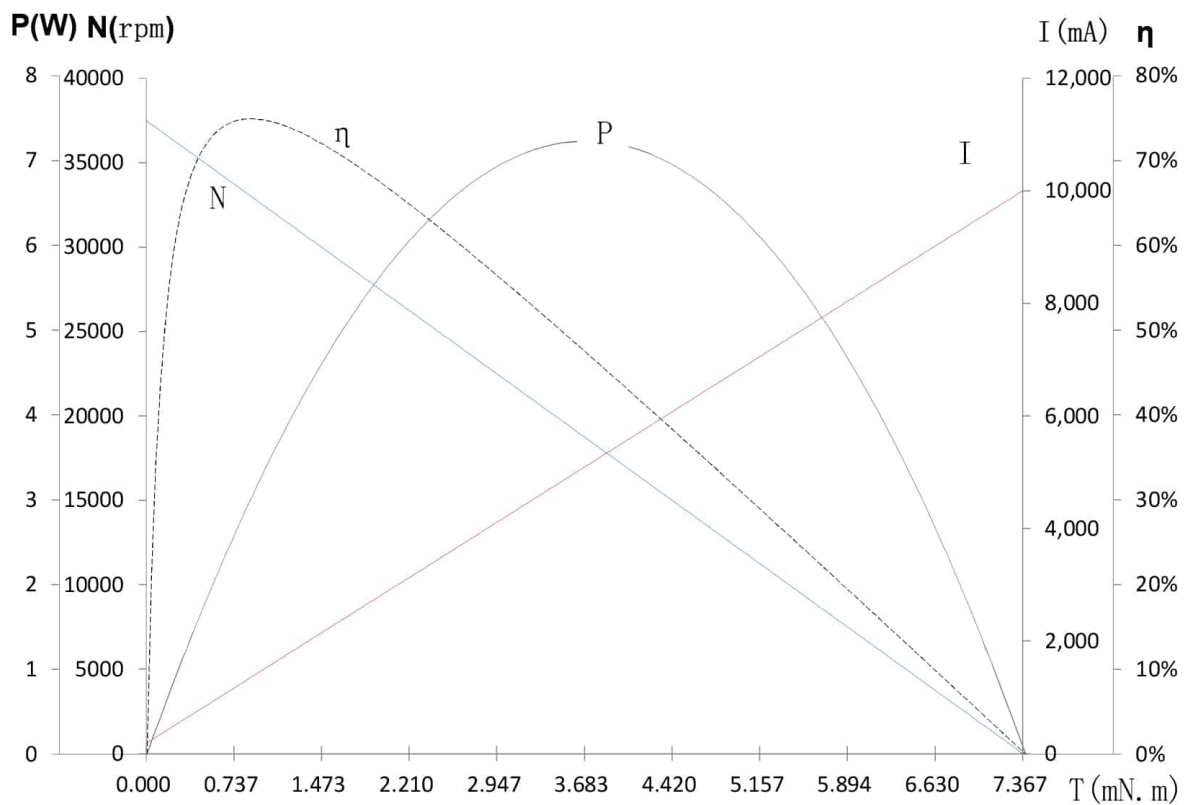
<https://www.kocomotion.de/produkt/l8-520n5m/>

Characteristics	Unit	L8.520N5M08-375-3.0	L8.520N5M14-435-3.4	L8.520N5M59-367-3.0
Rated voltage	V	3.0	3.4	3.0
Max. output power	W	7.24	7.93	4.81
Max. efficiency	%	75	73.5	74.1
Back-EMF constant	mV/rpm	0.08	0.08	0.08
Torque constant	mNm/A	0.75	0.73	0.77
Speed/torque gradient	rpm/mNm	5090	6254	7336
Rotor inertia	gcm ²	0.07	0.07	0.07
Weight	g	4.2	4.2	5.2
Operating temperature	°C	-20~+120	-20~+120	-20~+120
Outer diameter	mm	8.5 +/- 0.1	8.5 +/- 0.1	8.5 +/- 0.1
Motor length	mm	20 +/- 0.2	20 +/- 0.2	20 +/- 0.2
Terminal resistance	Ω	0.3	0.35	0.45
No-load speed	rpm	37500	43500	36700
No-load current	mA	180	200	130
Stall torque	mNm	7.4	7	5
Stall current	mA	10000	9710	6670
Load torque	mNm	0.5	0.5	1
Load speed	rpm	34950	40370	29360
Load current	mA	850	880	1440

Drawings



Speed/Thrust Curves



8.5mm Coreless DC Motor

L8.520N7M

L8.520N7M Series: 8.5mm Mini Coreless Motor with Precious Metal Brushes

- **Ultra-compact Coreless Design:** 8.5mm diameter for high RPM in minimal envelope
- **Versatile Voltage Offerings:** Options from 3V to 7V support broad application requirements
- **High Performance:** Delivers up to 6.0 W output power, maximum efficiency of 82%, and speeds up to 39,000 rpm
- **Low Inertia & Light Weight:** Rotor inertia as low as 0.07 gcm² and overall weight below 5g, ideal for responsive actuation
- **Wide Operating Range:** Functionality guaranteed from -20°C up to +120°C (model-dependent)
- **Flexible Customization:** Options include various lead wire/shaft lengths, special windings, and gearhead combinations



Typical Applications:

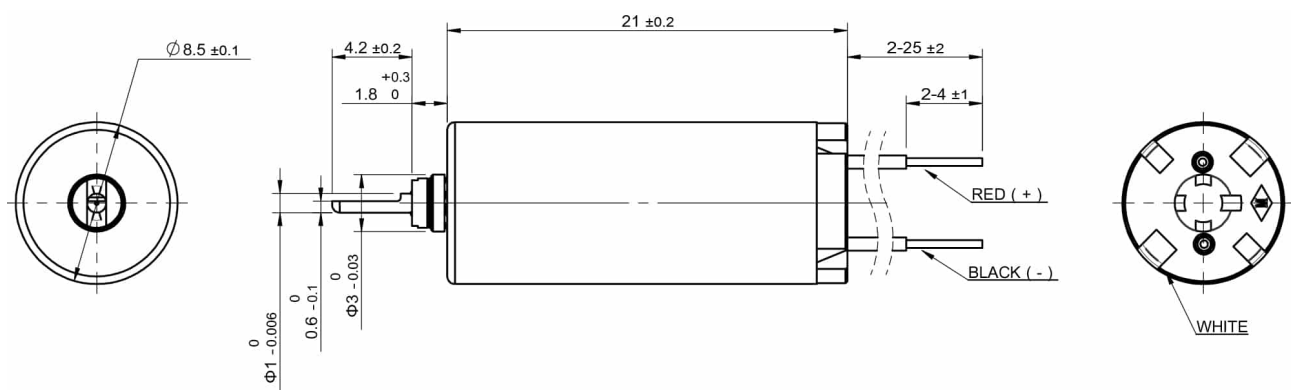
- Miniature UAV propulsion and gimbals
- Remote control hobby equipment (servo drives, small robotics)
- Precision small appliances and micro-actuation devices

These motors are engineered for scenarios requiring rapid acceleration, high peak torque (up to 6.4 mNm), and reliable performance at low weight and size. Precious metal brushes ensure low electrical noise, making them particularly suitable for high-precision feedback environments. Extensive options for customization further enhance adaptability in advanced mechatronics and OEM systems.

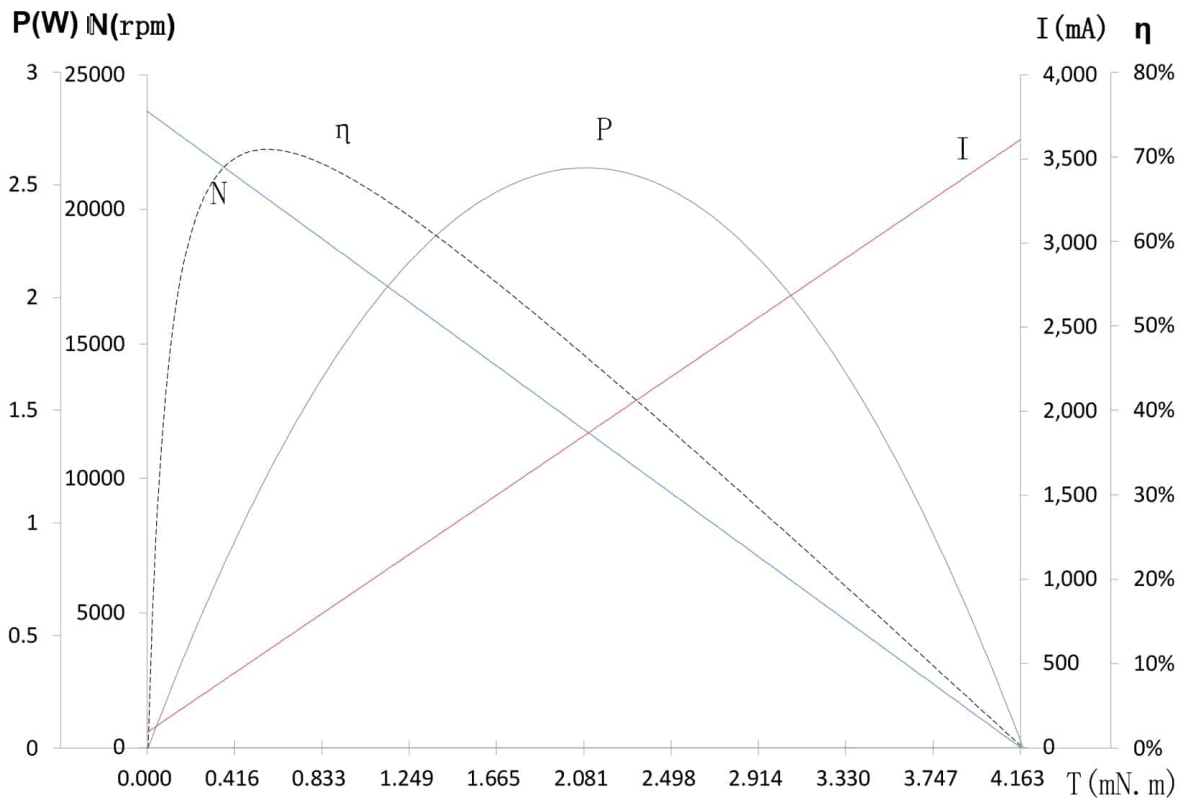

<https://www.kocomotion.de/produkt/l8-520n7m/>

Motor Characteristics	Unit	L8.520N7M11-240-3.0	L8.520N7M01-300-7.0	L8.520N7M02-200-3.0
Rated voltage	V	3.0	7.0	3.0
Max. output power	W	2.58	5.1	6.0
Max. efficiency	%	71.1	72	82
Back-EMF constant	mV/rpm	0.12	0.2	0.08
Torque constant	mNm/A	1.18	2.2	0.73
Speed/torque gradient	rpm/mNm	5681	4730	6660
Rotor inertia	gcm ²	0.07	0.8	0.8
Weight	g	4.87	5	4.9
Operating temperature	°C	-20~+120	-20~+80	-20~+80
Outer diameter	mm	8.5 +/- 0.1	8.5 +/- 0.1	8.5 +/- 0.1
Motor length	mm	21 +/- 0.2	21 +/- 0.2	21 +/- 0.2
Terminal resistance	Ω	0.83	2.3	0.37
No-load speed	rpm	23650	30300	39000
No-load current	mA	90	70	70
Stall torque	mNm	4.2	6.4	5.9
Stall current	mA	3610	3040	8110
Load torque	mNm	0.5	1	1
Load speed	rpm	20810	25570	32340
Load current	mA	510	530	1440

Drawings



Speed/Thrust Curves



8.5mm Coreless DC Motor Family

L8.523N5M

L8.523N5M 8.5mm Mini Coreless Motor Series delivers precision and high performance in a compact footprint. Featuring **precious metal brushes** for superior conductivity and extended operational life, this family is engineered for demanding miniature drive applications.



- **Key Specifications:**

- Nominal voltage: 3.0 V
- No-load speed up to 46,000 rpm
- Stall torque up to 5.1 mNm
- Maximum output power: 5.96 W
- Rotor inertia: 0.09 gcm²
- Operating temperature range: -20°C to +120°C
- Weight: 5.6-5.7 g
- Max. efficiency: up to 72.7%

- **Application Areas:**

- Mini unmanned aerial vehicles (UAVs)
- Remote control hobby products
- Small household appliances

- **Customizable Options:**

- Lead wire and shaft length
- Specialized coil configurations
- Gearheads for torque adaptation

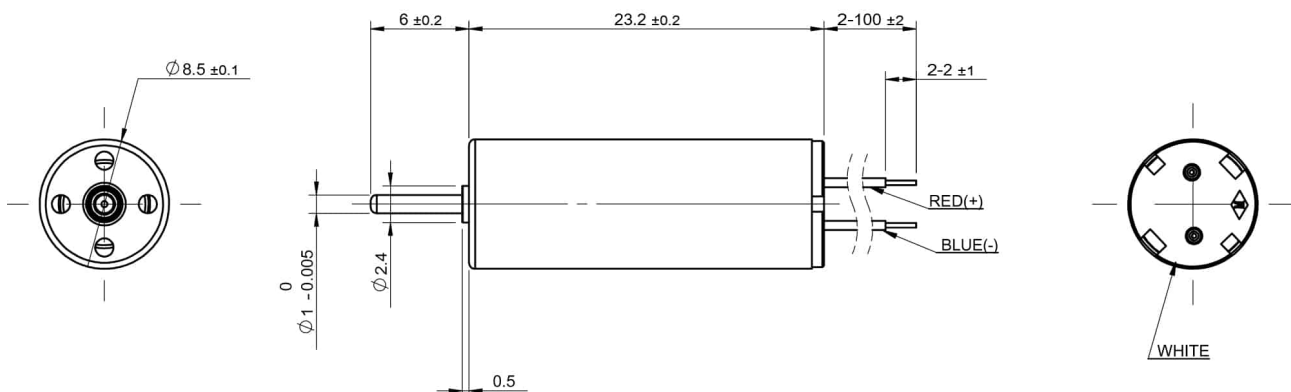
With a compact 8.5mm diameter and a robust design, the L8.523N5M motor family offers notable agility and performance, making it a preferred solution for precision motion tasks in size-constrained, high-speed environments.



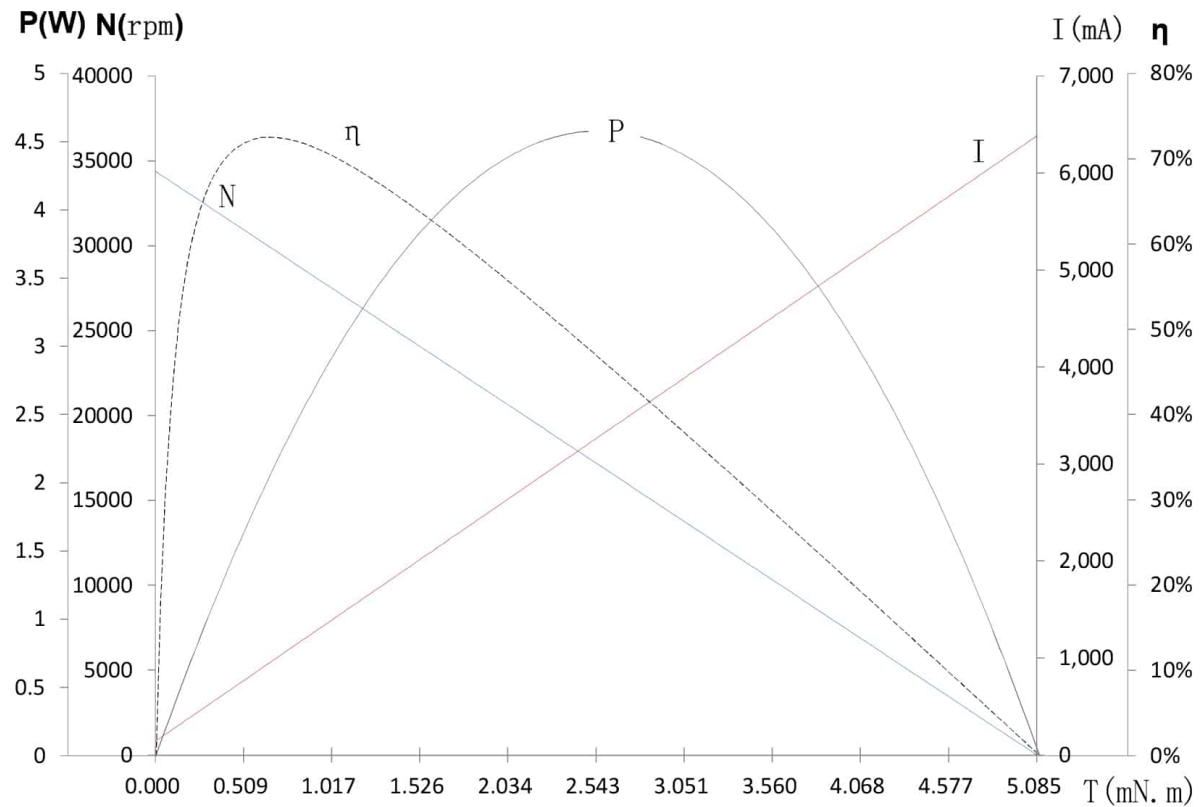
<https://www.kocomotion.de/produkt/l8-523n5m/>

Characteristics	Unit	L8.523N5M12-344-3.7	L8.523N5M14-367-3.0	L8.523N5M31-460-3.0
Rated voltage	V	3.0	3.0	3.0
Max. output power	W	4.58	4.77	5.96
Max. efficiency	%	72.7	71.5	71.5
Back-EMF constant	mV/rpm	0.09	0.08	0.06
Torque constant	mNm/A	0.81	0.76	0.61
Speed/torque gradient	rpm/mNm	6765	7404	9304
Rotor inertia	gcm ²	0.09	0.09	0.09
Weight	g	5.6	5.6	5.7
Operating temperature	°C	-20~+120	-20~+120	-20~+120
Outer diameter	mm	8.5 +/- 0.1	8.5 +/- 0.1	8.5 +/- 0.1
Motor length	mm	23.2 +/- 0.2	23.2 +/- 0.2	23.2 +/- 0.2
Terminal resistance	Ω	0.47	0.45	0.36
Outer diameter	mm	8.5 +/- 0.1	8.5 +/- 0.1	8.5 +/- 0.1
Motor length	mm	23.2 +/- 0.2	23.2 +/- 0.2	23.2 +/- 0.2
No-load speed	rpm	34400	36700	46000
No-load current	mA	140	160	200
Stall torque	mNm	5.1	5.0	4.9
Stall current	mA	6380	6670	8330
Load torque	mNm	1	1	1
Load speed	rpm	27640	29300	36700
Load current	mA	1370	1470	1840

Drawings



Speed/Thrust Curves



10mm Mini Coreless DC Motors

L1013N5M

L1013N5M Series 10mm Mini Coreless Motors deliver high-precision motion and energy efficiency in space-restricted environments. Featuring precious metal brushes, these motors ensure low electrical noise, reliable contact, and extended operational life.

- **Compact & Lightweight:** 10mm diameter, 4.1g—ideal for space-critical designs
- **Performance Range:**
 - Voltage: 3.0–5.5 V
 - No-load speed: 10,000–34,750 rpm
 - Stall torque: up to 2.4 mNm
 - Max. output power: up to 1.9 W
 - Max. efficiency: up to 70%
 - Low rotor inertia: 0.06 gcm² for fast response
 - Operating temperature: -20°C to +65°C
- **Key Applications:** mini UAVs, remote control hobby products, small household appliances
- **Customization Options:** lead wires, shaft length, special coils, and gearheads

These motors are engineered for precise control and rapid acceleration, making them ideal for high-speed mechanisms, lightweight robotic actuators, and miniature drive systems. Their versatility is enhanced by available configuration options, ensuring optimal integration with your application needs.

<https://www.kocomotion.de/produkt/l1013n5m/>

Characteristics	Unit	L1013N5M06-347-5.0	L1013N5M07-295-5.5	L1013N5M11-100-3.0
Rated voltage	V	5.0	5.5	3.0
Max. output power	W	1.8	1.9	0.1
Max. efficiency	%	68	70	60
Back-EMF constant	mV/rpm	0.1	0.2	0.3
Torque constant	mNm/A	1.3	1.7	2.7
Speed/torque gradient	rpm/mNm	18070	12290	20000
Rotor inertia	gcm ²	0.06	0.06	0.06
Weight	g	4.1	4.1	4.1
Operating temperature	°C	-20~+65	-20~+65	-20~+65
Outer diameter	mm	10	10	10
Motor length	mm	13	13	13
Terminal resistance	Ω	3.4	3.9	15.5
No-load speed	rpm	34750	29500	10000
No-load current	mA	45	37	10
Stall torque	mNm	1.9	2.4	0.5
Stall current	mA	1488	1421	194
Load torque	mNm	0.3	0.3	0.3
Load speed	rpm	29330	25810	4000
Load current	mA	270	210	120

Drawings

Speed/Thrust Curves

10mm Micro DC Motor, 3.7-6.0V

L1015N5M

L1015N5M Series - 10mm Micro DC Motors

The L1015N5M family features precision-engineered 10mm DC motors with precious metal brushes, delivering exceptional reliability and performance in compact applications. Supported operating voltages range from 3.7V to 6.0V, allowing seamless integration with a variety of power sources. With peak no-load speeds up to 26,700 rpm and maximum efficiency of 72%, these motors combine power density with high operational efficiency.



• Key Technical Specifications:

- Voltage range: 3.7V, 5.0V, 6.0V
- No-load speed: 21,200-26,700 rpm
- Stall torque: up to 2.32 mNm
- Maximum output power: up to 1.52 W
- Rotor inertia: as low as 0.07 gcm²
- Operating temperature: -20°C to +65°C
- Lightweight construction: 5.1g
- Efficiency: up to 72%

• Applications:

- Miniature UAV propulsion and actuation
- Remote control hobby products
- Precision drives for small household appliances

• Custom Options:

- Customized shaft and lead wire lengths
- Special coil windings
- Gearhead integration

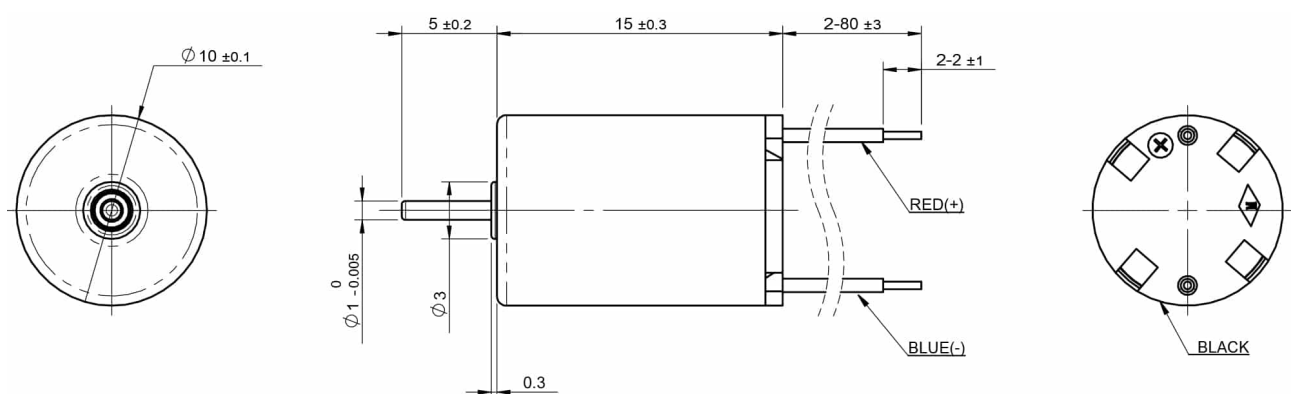
With their small form factor, high rotational speeds, and customizable features, the L1015N5M series delivers robust micro motion solutions for demanding, space-constrained applications across consumer and industrial markets.



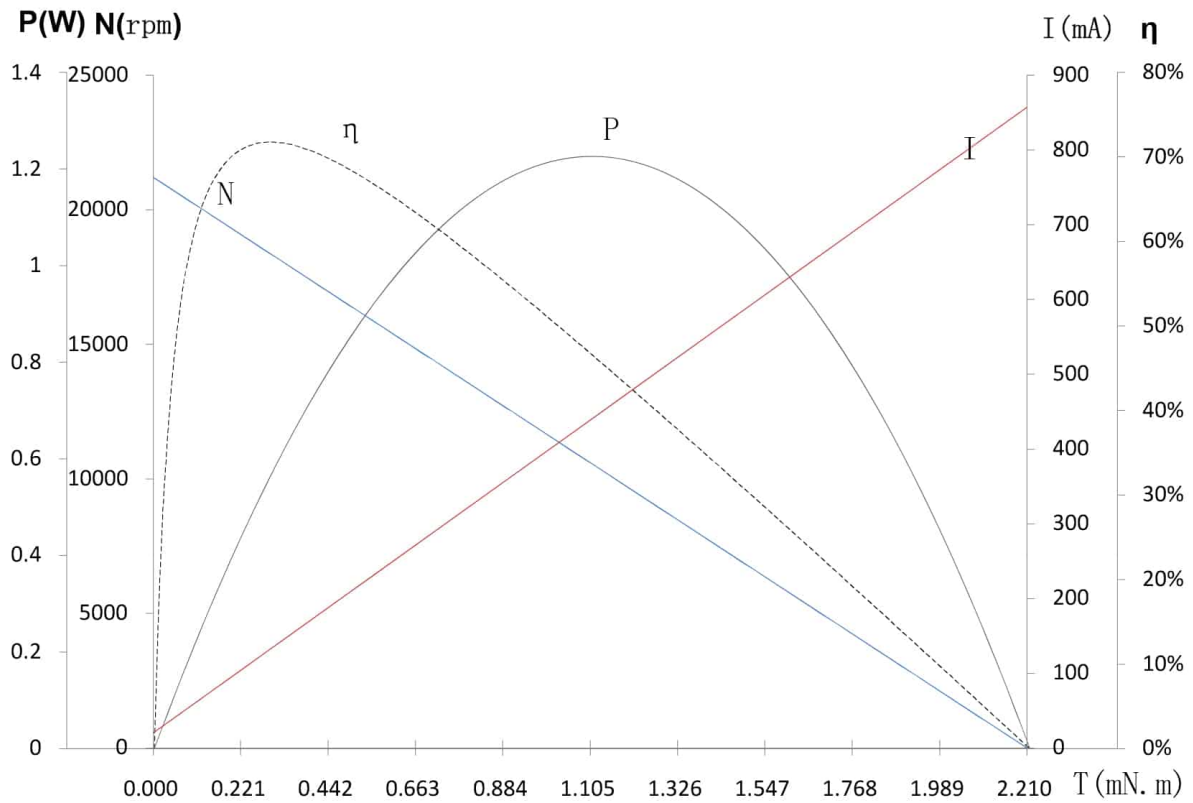
<https://www.kocomotion.de/produkt/l1015n5m/>

Characteristics	Unit	L1015N5M22-212-6.0	L1015N5M93-213-3.7	L1015N5M95-267-5.0
Rated voltage	V	6.0	3.7	5.0
Max. output power	W	1.23	1.3	1.52
Max. efficiency	%	72	72	70
Back-EMF constant	mV/rpm	0.3	0.2	0.2
Torque constant	mNm/A	2.6	1.6	1.7
Speed/torque gradient	rpm/mNm	9590	9180	12310
Rotor inertia	gcm ²	0.07	1.17	0.07
Weight	g	5.1	5.1	5.1
Operating temperature	°C	-20~+65	-20~+65	-20~+65
Outer diameter	mm	10 +/- 0.1	10 +/- 0.1	10 +/- 0.1
Motor length	mm	15 +/- 0.3	15 +/- 0.3	15 +/- 0.3
Terminal resistance	Ω	7.0	2.5	3.9
No-load speed	rpm	21200	21300	26700
No-load current	mA	20	35	35
Stall torque	mNm	2.21	2.32	2.17
Stall current	mA	860	1470	1280
Load torque	mNm	0.5	0.5	1.5
Load speed	rpm	16400	16710	8240
Load current	mA	210	340	900

Drawings



Speed/Thrust Curves



Mini Coreless DC Motors

L1020N5M

L1020N5M Series - High-Performance 10mm Coreless DC Motors



- **Advanced Precious Metal Commutation:** Ensures low contact resistance for reliable, long-life operation and consistent electrical performance.
- **Optimized Technical Specifications:**
 - Operating voltages: 3.8V, 5.0V, and 7.4V
 - No-load speeds up to 45,300 rpm
 - Maximum output power up to 7.7 W
 - Efficiency up to 82%
 - Ultra-low rotor inertia (0.15 gcm²) and lightweight (7.5 g)
 - Operating temperature range: -20°C to +85°C
- **Typical Applications:**
 - Mini UAV propulsion systems
 - Remote control hobby motors (cars, boats, helicopters)
 - Small household and portable appliances
- **Customization & Integration:**
 - Lead wire and shaft length options
 - Specialized coil configurations
 - Compatible with precision gearheads

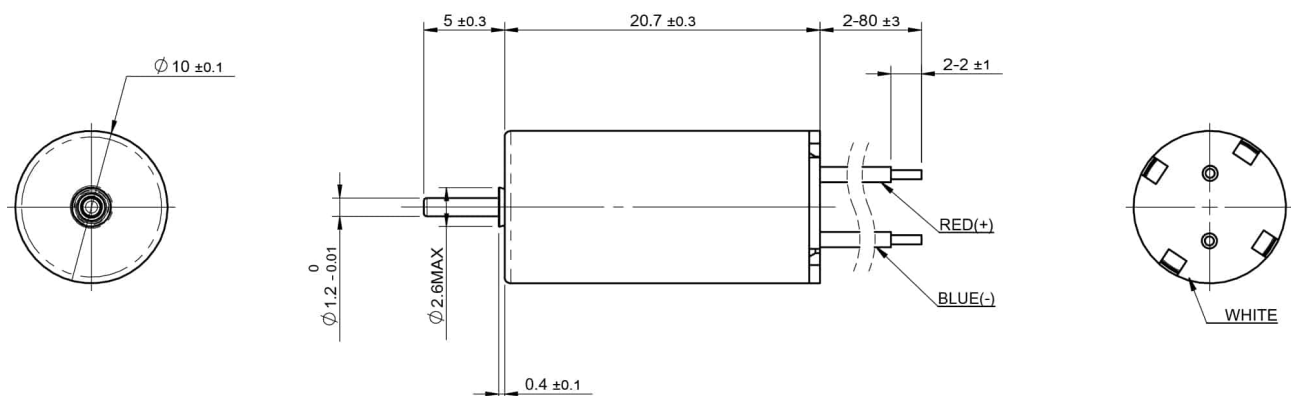
With their compact design, exceptional efficiency, and capacity for precise customization, the L1020N5M series is engineered for demanding motion control tasks in size-critical systems. Whether for high-speed actuation or efficient portable drives, these coreless DC motors ensure outstanding performance and maximum integration flexibility for OEM projects.



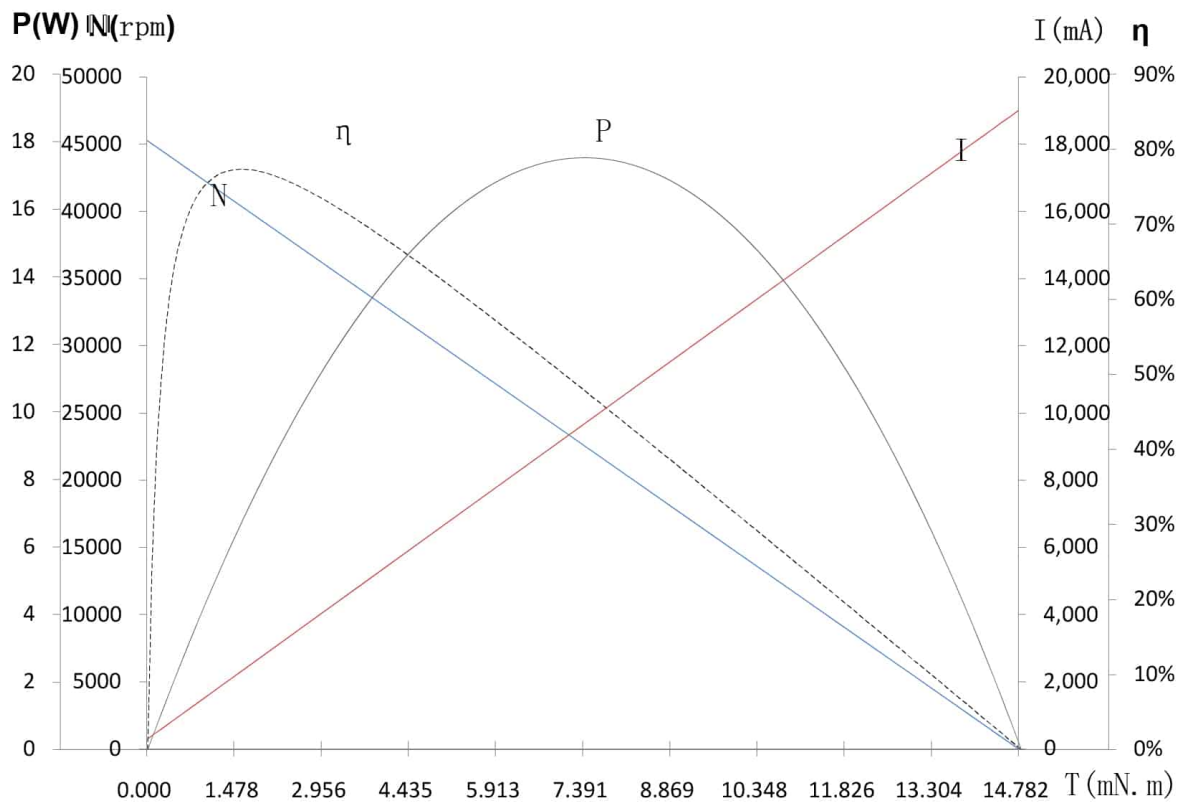
<https://www.kocomotion.de/produkt/l1020n5m/>

Characteristics	Unit	L1020N5M50-453-3.8	L1020N5M66-336-7.4	L1020N5M69-291-5.0
Rated voltage	V	3.8	7.4	5.0
Max. output power	W	77	7.4	6.4
Max. efficiency	%	81	77	82
Back-EMF constant	mV/rpm	0.1	0.2	0.2
Torque constant	mNm/A	0.8	2.1	1.6
Speed/torque gradient	rpm/mNm	3060	4010	3470
Rotor inertia	gcm ²	0.15	0.15	0.15
Weight	g	7.5	7.5	7.5
Operating temperature	°C	-20~+85	-20~+85	-20~+85
Outer diameter	mm	10 +/- 0.1	10 +/- 0.1	10 +/- 0.1
Motor length	mm	20.7 +/- 0.3	20.7 +/- 0.3	20.7 +/- 0.3
Terminal resistance	Ω	0.2	1.8	1.4
No-load speed	rpm	45300	33600	29100
No-load current	mA	275	65	32
Stall torque	mNm	14.8	8.4	8.4
Stall current	mA	19000	4111	3571
Load torque	mNm	2	2	3
Load speed	rpm	39170	25580	18680
Load current	mA	2810	1030	1300

Drawings



Speed/Thrust Curves



12mm Mini Coreless DC Motor

L1212N5M

L1212N5M Series - 12mm Mini Coreless Motor

- Diameter: 12mm
- Coreless rotor design with precious metal commutation for minimal cogging, low electrical noise, and high responsiveness
- Rated voltage: 6.0V
- No-load speeds: up to 37,500 rpm (model dependent)
- Stall torque range: 1.6 to 3.2 mNm
- Terminal resistance range: 3.1-5.1 Ω
- Max. output power: up to 2.7 W; efficiency up to 67%
- Lightweight construction: only 5.5 g
- Operating temperature: -20°C to +85°C
- Low inertia for precise acceleration and deceleration
- Consistent torque characteristics with speed/torque gradients from 9,860 to 23,300 rpm/mNm



Practical Applications

- Mini UAV propulsion and actuation
- Remote control hobby vehicles and robotics
- Small household appliances

Key Benefits

- High power-to-weight ratio for demanding miniature applications
- Low electrical noise and smooth operation critical in sensitive electronics
- Fully customizable with options for lead wires length, shaft length, gearheads, and specialized coil windings

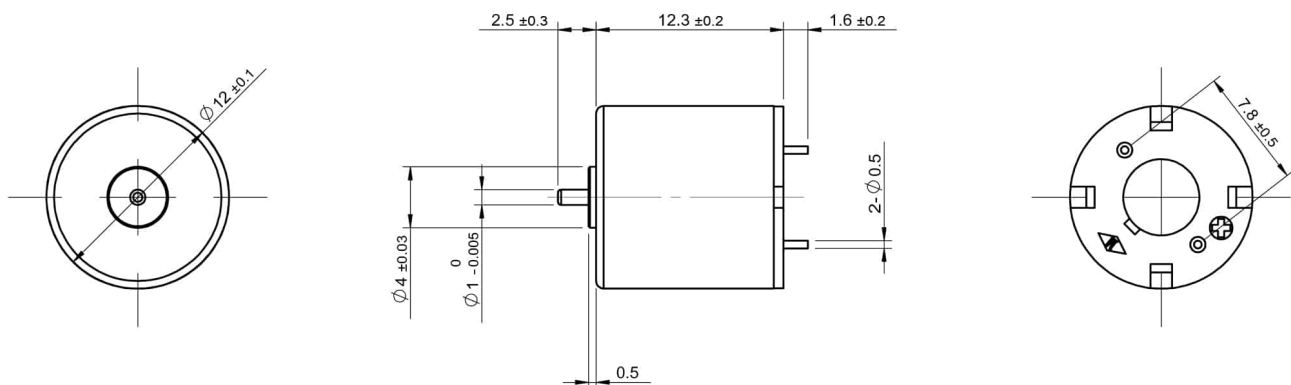
The L1212N5M motors are preferred for applications requiring compactness, consistent performance, and design flexibility, making them an optimal solution in industries where miniaturization and precision are paramount.



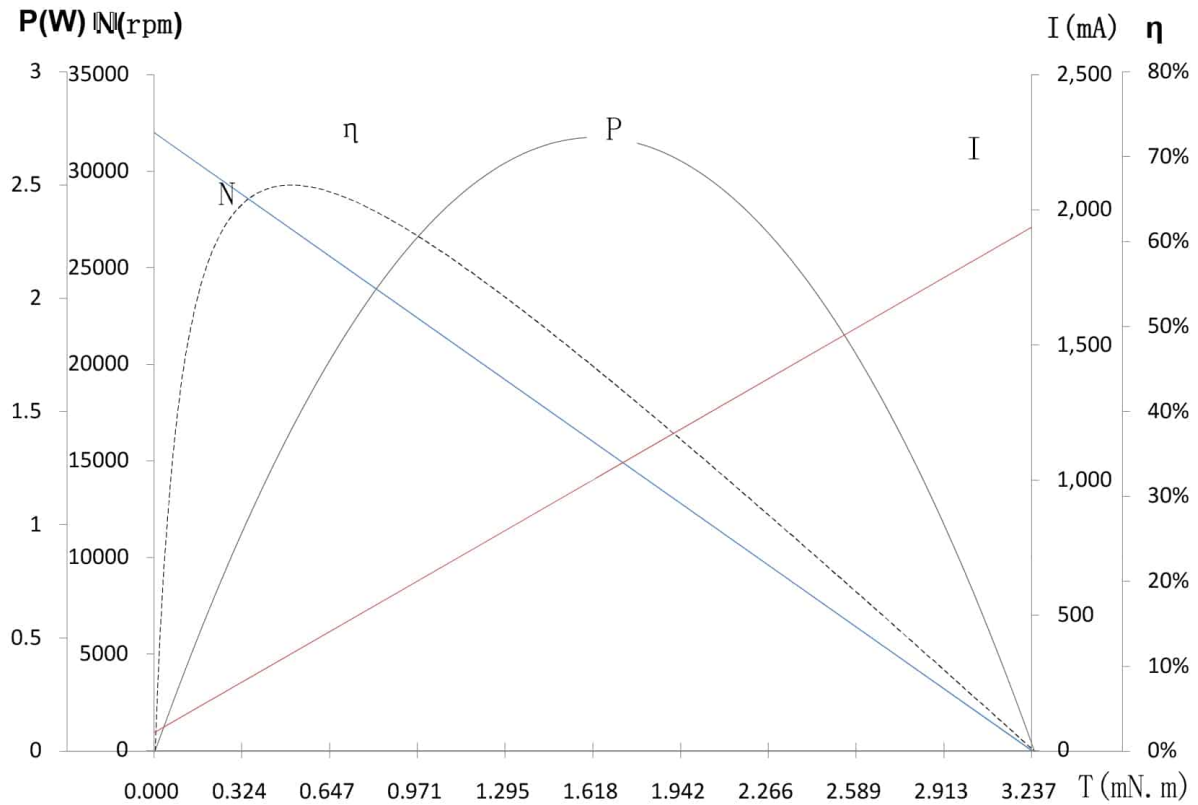
<https://www.kocomotion.de/produkt/l1212n5m/>

Characteristics	Unit	L1212N5M05-320-6.0	L1212N5M01-335-6.0	L1212N5M04-375-6.0
Rated voltage	V	6.0	6.0	6.0
Max. output power	W	2.7	2.1	1.6
Max. efficiency	%	67	63	59
Back-EMF constant	mV/rpm	0.2	0.2	0.2
Torque constant	mNm/A	1.7	1.6	1.4
Speed/torque gradient	rpm/mNm	9860	13870	23300
Rotor inertia	gcm ²	0.1	0.1	0.1
Weight	g	5.5	5.5	5.5
Operating temperature	°C	-20~+85	-20~+85	-20~+85
Outer diameter	mm	12 +/- 0.1	12 +/- 0.1	12 +/- 0.1
Motor length	mm	12.3 +/- 0.2	12.3 +/- 0.2	12.3 +/- 0.2
Terminal resistance	Ω	3.1	3.9	5.1
No-load speed	rpm	32000	33500	37500
No-load current	mA	65	65	65
Stall torque	mNm	3.2	2.4	1.6
Stall current	mA	1940	1540	1180
Load torque	mNm	0.5	0.5	0.5
Load speed	rpm	27070	26570	25850
Load current	mA	350	370	410

Drawings



Speed/Thrust Curves



12mm Coreless DC Motor Family

L1213N5M

The L1213N5M 12mm micro DC coreless motor family features precision-engineered motors designed for demanding applications requiring compact size, high speed, and reliable operation. Equipped with precious metal brushes, these motors deliver superior commutation and extended operational life.

• Key Technical Specifications:

- Operating voltage range: 6.0V to 7.4V
- No-load speed: up to 40,500 rpm
- Stall torque: up to 3.7 mNm
- Terminal resistance: as low as 3.2 Ω
- Ultra-lightweight: 5.6–6.5 g
- Operating temperature: -20 to +85°C

• Benefits:

- High power-to-weight ratio for space-constrained designs
- Exceptional efficiency (up to 76%) reduces power consumption
- Low rotor inertia ensures rapid response and precise control
- Customizable with gearheads, shaft length, special coils, and various lead wire configurations

• Typical Applications:

- Mini UAV propulsion and actuation
- Remote control and hobby models
- Small household appliances and portable devices

This family is the ideal solution for engineers seeking a compact, adaptable, and robust coreless DC motor platform for both standard and tailored motion control requirements.



<https://www.kocomotion.de/produkt/l1213n5m/>

Characteristics	Unit	L1213N5M01-185-7.4	L1213N5M02-300-6.0	L1213N5M05-400-7.4
Rated voltage	V	7.4	6.0	7.4
Max. output power	W	0.9	2.2	3.9
Max. efficiency	%	74	76	60
Back-EMF constant	mV/rpm	0.4	0.2	0.2
Torque constant	mNm/A	3.7	1.9	1.7
Speed/torque gradient	rpm/mNm	9880	10830	10970
Rotor inertia	gcm ²	0.1	0.1	0.1
Weight	g	6.5	6.5	5.6
Operating temperature	°C	-20~+85	-20~+85	-20~+85
Outer diameter	mm	12	12	12
Motor length	mm	13	13	13
Terminal resistance	Ω	14.5	4	3.2
No-load speed	rpm	18500	30000	40500
No-load current	mA	10	25	120
Stall torque	mNm	1.9	2.8	3.7
Stall current	mA	510	1500	2350
Load torque	mNm	0.5	0.5	0.5
Load speed	rpm	13560	24590	35020
Load current	mA	140	290	420

Drawings

Speed/Thrust Curves

12mm Micro DC Coreless Motors

L1215N5M

L1215N5M Series - 12mm 8V Micro DC Coreless Motors

- **High-Performance Coreless Design:** Advanced coreless technology combined with precious metal brushes ensures low electrical noise, reduced cogging, and reliable, long-term operation even at high RPM.
- **Compact & Lightweight:** Diameter of just 12mm and weights starting at 6.5g make these motors ideal for space-constrained applications.
- **Versatile Electrical Performance:**
 - Input voltages from 6.0V to 8.0V
 - No-load speeds up to 33,000 rpm
 - Maximum efficiency up to 70%
 - Peak output power up to 5 W
 - Operating temperature range: -20 °C to +85 °C
- **Precision & Responsiveness:** Low rotor inertia (0.1 gcm²) for fast acceleration and accurate speed control.
- **Customizable:** Available options include various lead wire and shaft lengths, special coil configurations, and integrated gearheads to meet specific design requirements.
- **Typical Applications:**
 - Mini unmanned aerial vehicles (mini UAVs)
 - Remote control hobby products
 - Small household appliances



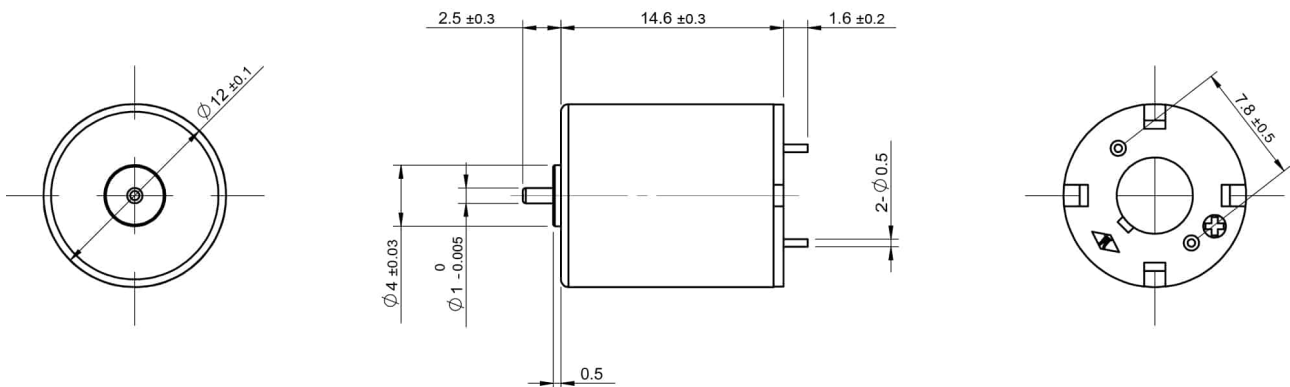
With their high-speed capability, durability, and adaptable mounting options, the L1215N5M micro coreless motors are an excellent solution wherever high precision and compact integration are required.



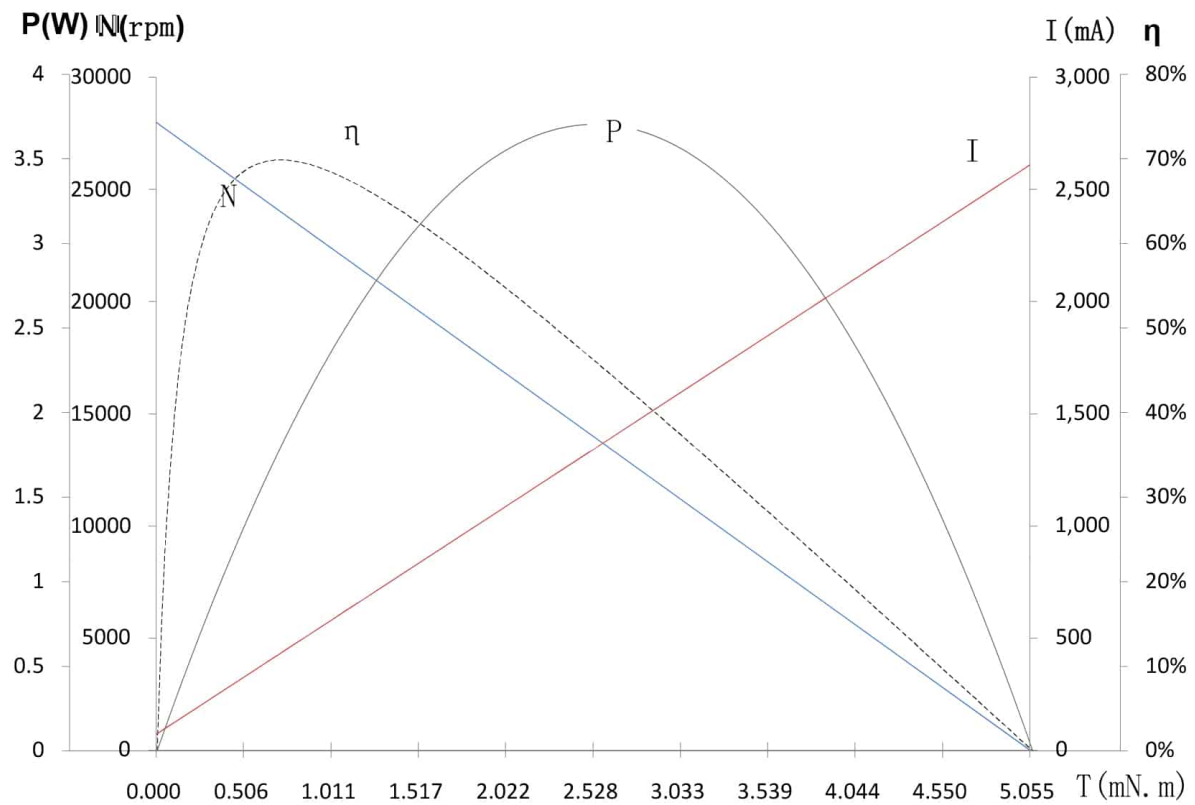
<https://www.kocomotion.de/produkt/l1215n5m/>

Characteristics	Unit	L1215N5M43-230-6.0	L1215N5M48-330-8.0	L1215N5M34-280-6.0
Rated voltage	V	6.0	8.0	6.0
Max. output power	W	2	5	3.7
Max. efficiency	%	69.2	67	70
Back-EMF constant	mV/rpm	0.3	0.2	0.2
Torque constant	mNm/A	2.4	2.2	2
Speed/torque gradient	rpm/mNm	5560	6300	5540
Rotor inertia	gcm ²	0.1	0.1	0.1
Weight	g	7	7	6.5
Operating temperature	°C	-20~+85	-20~+85	-20~+85
Outer diameter	mm	12 +/- 0.1	12 +/- 0.1	12 +/- 0.1
Motor length	mm	14.6 +/- 0.3	14.6 +/- 0.3	14.6 +/- 0.3
Terminal resistance	Ω	3.4	3.3	2.3
No-load speed	rpm	23000	33000	28000
No-load current	mA	50	80	70
Stall torque	mNm	4.1	5.2	5.1
Stall current	mA	1760	2420	2610
Load torque	mNm	1	1	0.5
Load speed	rpm	20220	29850	25230
Load current	mA	260	300	320

Drawings



Speed/Thrust Curves



15mm Coreless Micro DC Motors

L1515N5M

L1515N5M Micro DC Coreless Motors deliver reliable, high-speed performance in a compact 15mm diameter package. Utilizing precious metal brushes for low electrical noise and superior commutation, these motors offer:

- **Wide voltage range:** Models from 7.4V (up to 32,500 rpm) to 12V (up to 25,000 rpm) for diverse system requirements.
- **High efficiency:** Up to 79% conversion for energy-sensitive applications, reducing power consumption and heat generation.
- **Precision and responsiveness:** Low rotor inertia (0.7 gcm^2) enables rapid acceleration and deceleration, essential for dynamic control.
- **Robust output:** Max output powers up to 8.3 W and stall torques up to 9.8 mNm for demanding loads.
- **Compact and lightweight:** Weighing only ~12g, ideal for space-critical or portable applications.
- **Wide operating temperature:** Reliable performance from -20°C to $+85^\circ\text{C}$.

Typical applications include **mini UAVs, remote control hobby products, and small household appliances** that require high-speed, light weight, and efficient power delivery. Flexible customization options are available for lead wire length, shaft configuration, special windings, or integration with gearheads—allowing easy adaptation to project-specific requirements. The L1515N5M series brings precision, durability, and flexibility to your advanced motion systems.



<https://www.kocomotion.de/produkt/l1515n5m/>

Characteristics	Unit	L1515N5M12-325-7.4	L1515N5M13-250-12.0	L1515N5M02-260-7.4
Rated voltage	V	7.4	12.0	7.4
Max. output power	W	8.3	4.5	5.2
Max. efficiency	%	79	72	72
Back-EMF constant	mV/rpm	0.22	0.47	0.28
Torque constant	mNm/A	2.15	4.48	2.65
Speed/torque gradient	rpm/mNm	3320	3660	3390
Rotor inertia	gcm ²	0.7	0.7	0.7
Weight	g	12	12	12.1
Operating temperature	°C	-20~+85	-20~+85	-20~+85
Outer diameter	mm	15	15	15
Motor length	mm	15	15	15
Terminal resistance	Ω	1.6	7.7	2.5
No-load speed	rpm	32500	25000	26000
No-load current	mA	60	35	70
Stall torque	mNm	9.8	6.8	7.7
Stall current	mA	4625	1558	2960
Load torque	mNm	1	1	1
Load speed	rpm	29180	21340	22610
Load current	mA	526	260	600

Drawings

Speed/Thrust Curves

16mm Coreless DC Motor

L1620N5M

L1620N5M Series - 16mm Micro DC Coreless Motor

The L1620N5M series combines advanced performance in a compact coreless design, featuring **precious metal brushes** for dependable electrical contact and minimal maintenance. Optimized for high-speed, low-inertia tasks, these motors achieve no-load speeds up to **9,500 rpm** and torque ratings up to **7.8 mNm**, delivering responsive performance in space-constrained environments.



• Key Specifications:

- Voltage: 5.0 V
- Max. output power: up to 1.6 W
- Max. efficiency: up to 75%
- Rotor inertia: 0.45 gcm²
- Operating temperature: -20 ~ +85 °C
- Weight: 15.8 g

• Applications:

- Mini UAV propulsion and stabilization
- Remote control hobby products
- Small household appliances

• Custom Options:

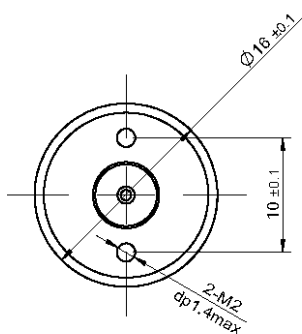
- Lead wires length and shaft length variations
- Special coil designs
- Integrated gearhead compatibility

With its high efficiency, compact form factor, and configuration flexibility, the L1620N5M series is the optimal choice for demanding motion applications where size, speed, and reliability are critical.

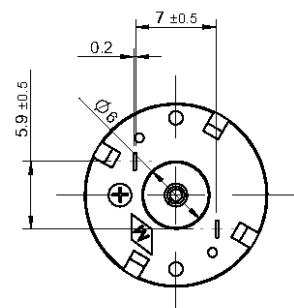
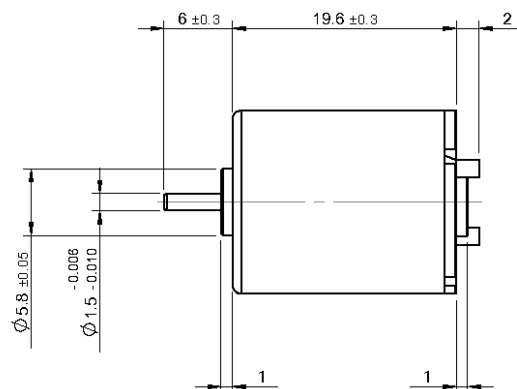

<https://www.kocomotion.de/produkt/l1620n5m/>

Characteristics	Unit	L1620N5M33-85-5.0	L1620N5M20-95-5.0	L1620N5M29-80-5.0
Rated voltage	V	5.0	5.0	5.0
Max. output power	W	1.5	1.4	1.6
Max. efficiency	%	70	69	75
Back-EMF constant	mV/rpm	0.6	0.5	0.6
Torque constant	mNm/A	5.4	4.9	5.9
Speed/torque gradient	rpm/mNm	1260	1640	1030
Rotor inertia	gcm ²	0.45	0.45	0.45
Weight	g	15.8	15.8	15.8
Operating temperature	°C	-20~+85	-20~+85	-20~+85
Outer diameter	mm	16 +/- 0.1	16 +/- 0.1	16 +/- 0.1
Motor length	mm	19.6 +/- 0.3	19.6 +/- 0.3	19.6 +/- 0.3
Terminal resistance	Ω	3.9	4.1	3.7
No-load speed	rpm	8550	9500	8000
No-load current	mA	35	35	25
Stall torque	mNm	6.8	5.78	7.8
Stall current	mA	1280	1220	1350
Load torque	mNm	1	1	1
Load speed	rpm	7290	7860	6970
Load current	mA	220	240	200

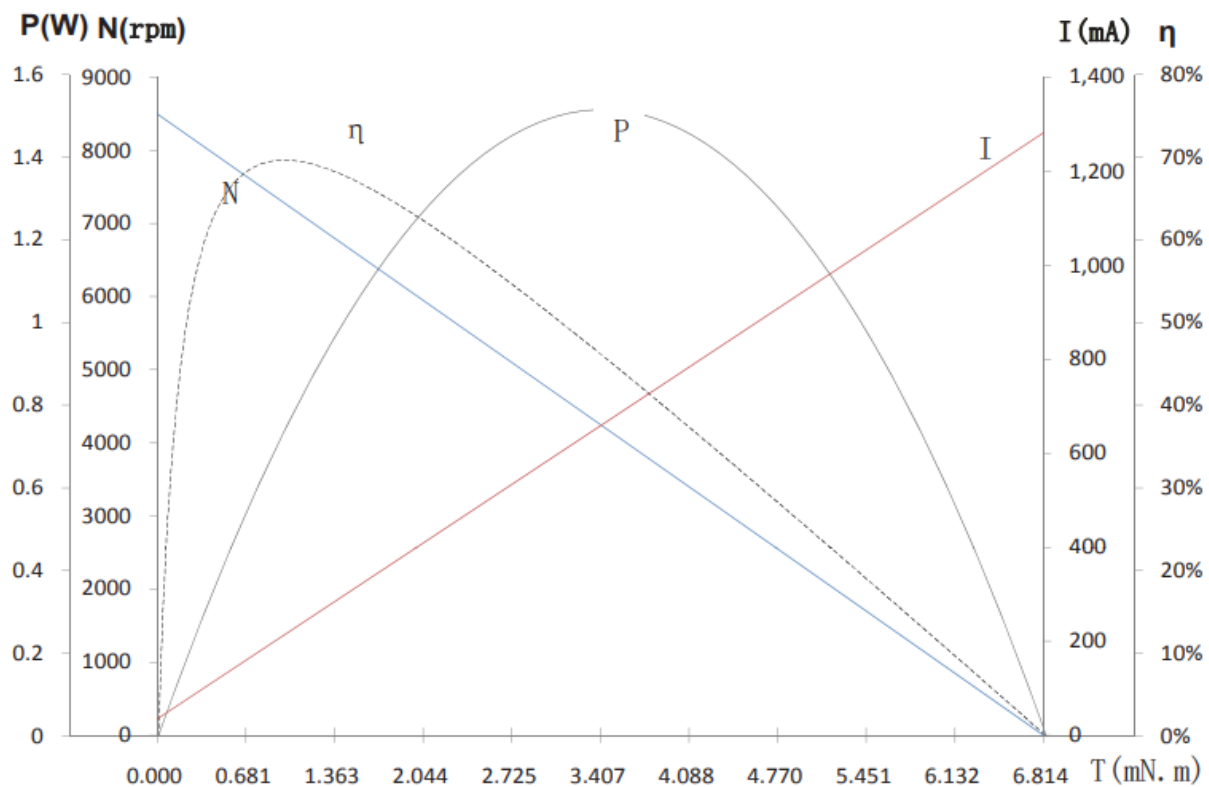
Drawings



2D drawing L1620N5M



Speed/Thrust Curves



Characteristics Curve / Model L1620N5M33-85-5.0

16mm Micro DC Coreless Motor, 3V Series

L1630N5M

L1630N5M Series - 16mm Coreless Micro DC Motors

- **Brush Type:** Precious metal brushes for superior electrical contact and low wear
- **Voltage Options:** 3.0V, 5.0V, and 6.0V variants for versatile integration
- **Performance:**
 - No-load speeds from 2,500 to 12,000 rpm
 - Stall torque up to 20.2 mNm
 - Maximum efficiencies up to 84%
 - Low rotor inertia (0.7 gcm²) for fast response
 - Maximum output power up to 6.4 W
- **Operating Range:** -20°C to +85°C for reliable performance in demanding environments
- **Lightweight Design:** Only 25.2g, ideal for weight-sensitive devices
- **Customization:** Options for shaft length, lead wire length, special coils, and gearheads to suit specialized requirements



Application Areas:

- Mini UAV propulsion and gimbal drive
- Remote control hobby vehicles and models
- Small household appliances including fans, pumps, and actuation mechanisms

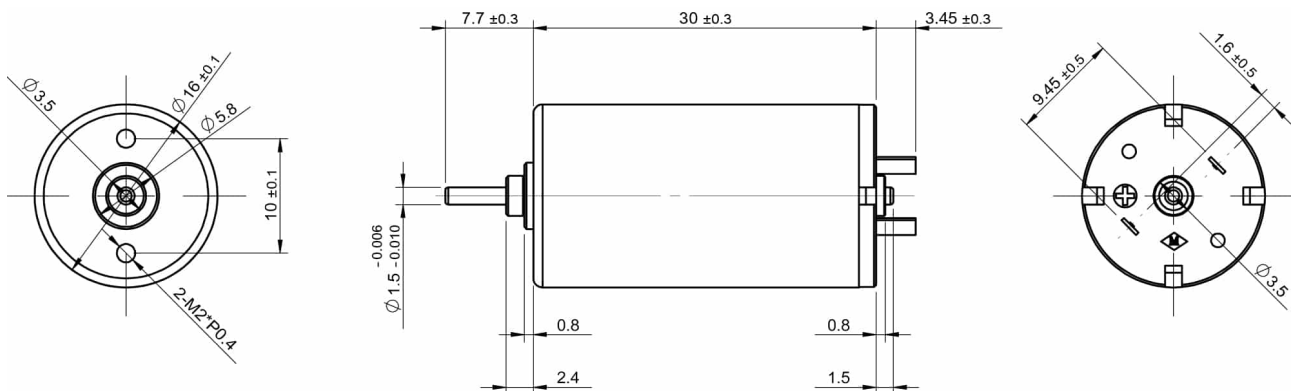
With a compact 16mm diameter and advanced coreless rotor design, the L1630N5M family delivers high speed and torque density, enabling precise motion in space-constrained and portable electronic systems. Its premium precious metal brushes ensure extended service life and stable operation. The broad selection of voltage ratings and adaptable configuration supports diverse integration scenarios, making this family an optimal choice for demanding micro-motion applications.



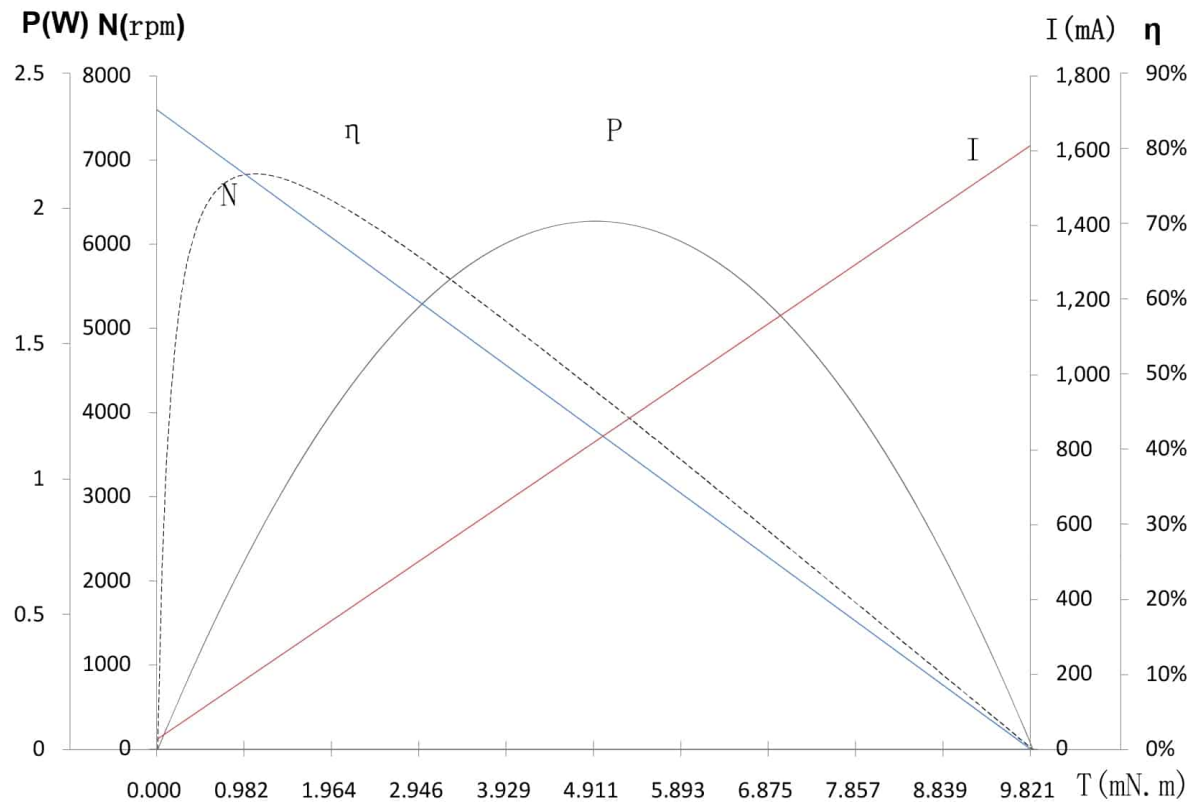
<https://www.kocomotion.de/produkt/l1630n5m/>

Characteristics	Unit	L1630N5M11-76-5.0	L1630N5M35-25-3.0	L1630N5M22-120-6.0
Rated voltage	V	5.0	3.0	6.0
Max. output power	W	2	0.3	6.4
Max. efficiency	%	78	66	84
Back-EMF constant	mV/rpm	0.6	1.2	0.5
Torque constant	mNm/A	6.1	11	4.7
Speed/torque gradient	rpm/mNm	780	560	590
Rotor inertia	gcm ²	0.7	0.7	0.7
Weight	g	25.2	25.2	25.2
Operating temperature	°C	-20~+85	-20~+85	-20~+85
Outer diameter	mm	16 +/- 0.1	16 +/- 0.1	16 +/- 0.1
Motor length	mm	30 +/- 0.3	30 +/- 0.3	30 +/- 0.3
Terminal resistance	Ω	3.1	7.2	1.4
No-load speed	rpm	7700	2500	12000
No-load current	mA	25	15	30
Stall torque	mNm	9.8	4.5	20.2
Stall current	mA	1610	420	4290
Load torque	mNm	0.5	1	2
Load speed	rpm	7310	1940	10810
Load current	mA	110	110	450

Drawings



Speed/Thrust Curves



16mm Coreless DC Micro Motor

L1625N5M

L1625N5M Series - 16mm Micro DC Coreless Motors

Designed for high performance in compact spaces, the L1625N5M series is engineered with a coreless rotor and precious metal brushes to ensure reliable operation and minimal wear. Available in 5V, 6V, and 12V versions, these micro DC motors deliver exceptional speed and torque in a lightweight 20.5 g package.



- **Key Specifications:**

- Voltage options: 5.0V, 6.0V, 12.0V
- No-load speeds: 6,000-18,700 rpm
- Stall torque: up to 22.3 mNm
- Peak output power: up to 10.9 W
- Operating temperature: -20°C to +85°C
- Max efficiency: up to 79%
- Rotor inertia: 0.7 gcm²

- **Applications:** Optimized for mini UAVs, remote control hobby products, and small household appliances demanding compact size and responsive power.

- **Customization & Options:** Lead wires length, shaft length, custom coils, and gearhead integration available for tailored solutions.

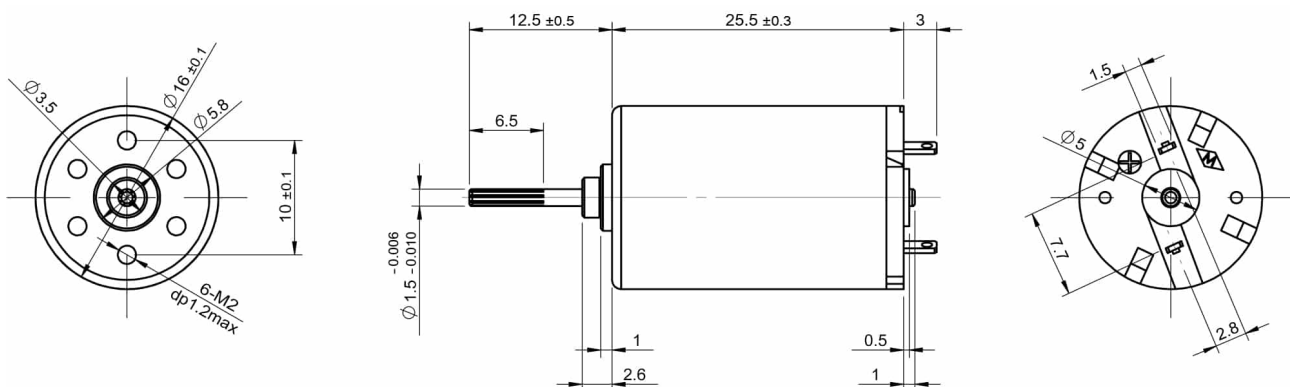
Leverage the L1625N5M family to achieve high-efficiency and high-speed motion in minimal space. The robust coreless design and precision brush system deliver reliable, smooth operation in demanding OEM equipment and consumer applications.



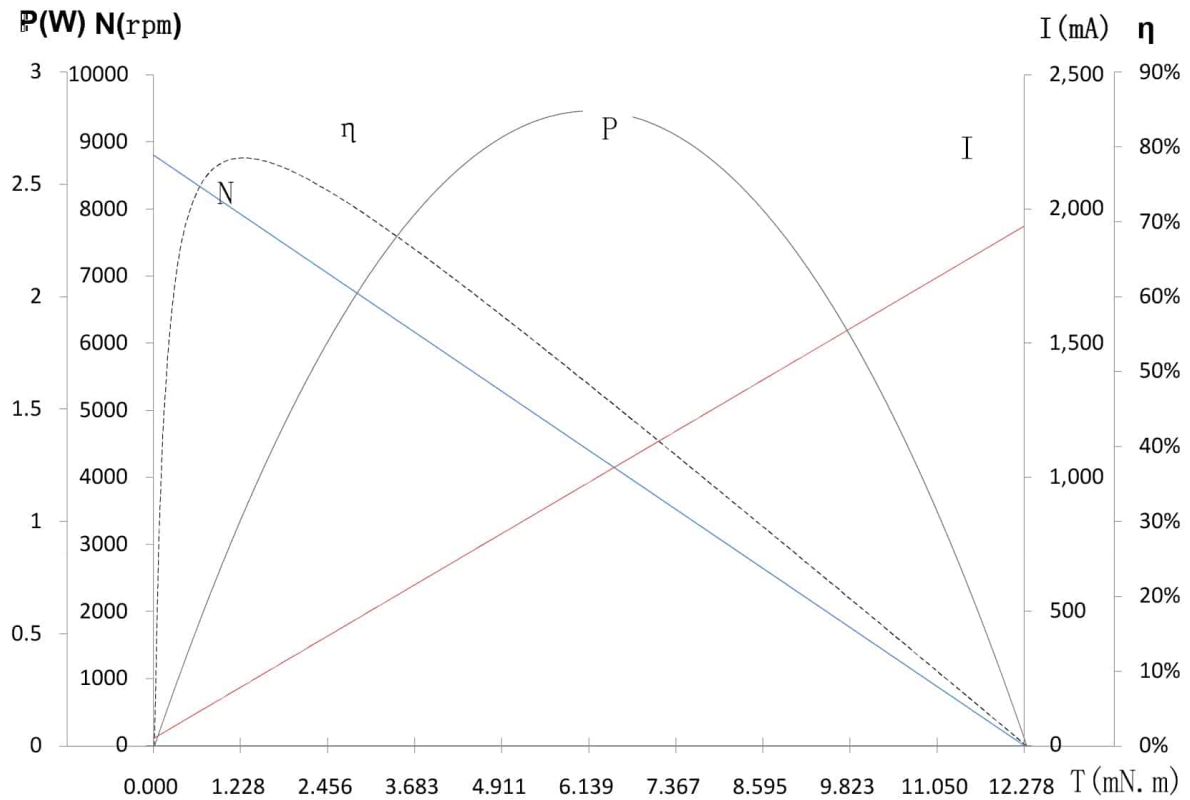
<https://www.kocomotion.de/produkt/l1625n5m/>

Characteristics	Unit	L1625N5M25-88-6.0	L1625N5M35-60-5.0	L1625N5M54-170-12.0
Rated voltage	V	6.0	5.0	12.0
Max. output power	W	2.8	1.4	10.9
Max. efficiency	%	79	73	76
Back-EMF constant	mV/rpm	0.67	0.82	0.63
Torque constant	mNm/A	6.43	7.78	6.03
Speed/torque gradient	rpm/mNm	720	690	840
Rotor inertia	gcm ²	0.7	0.7	0.7
Weight	g	20.5	20.5	20.5
Operating temperature	°C	-20~+85	-20~+85	-20~+85
Outer diameter	mm	16 +/- 0.1	16 +/- 0.1	16 +/- 0.1
Motor length	mm	25.5 +/- 0.3	25.5 +/- 0.3	25.5 +/- 0.3
Terminal resistance	Ω	3.1	4.4	3.2
No-load speed	rpm	8800	6000	18700
No-load current	mA	25	25	60
Stall torque	mNm	12.3	8.6	22.3
Stall current	mA	1935	1136	3750
Load torque	mNm	3.5	1	3.8
Load speed	rpm	6290	5310	15470
Load current	mA	570	153	697

Drawings



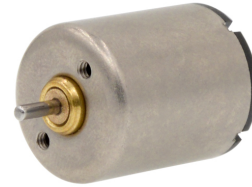
Speed/Thrust Curves



17mm Micro DC Coreless Motor

L1718N5M

L1718N5M Micro DC Coreless Motor Series offers high-performance solutions in a compact 17mm form factor, engineered for demanding applications where space, efficiency, and speed are critical. Designed with **precious metal brushes** for enhanced contact reliability and excellent electrical performance, this series is ideal for precision-driven environments.



- **Operating Voltage Range:** 6.0 V to 7.4 V
- **Speed:** Up to 26,000 rpm no-load, supporting rapid response and dynamic operation
- **Torque:** Stall torque up to 17.6 mNm and continuous output to meet various load requirements
- **Efficiency:** Up to 85% max. efficiency for minimal power losses and thermal load
- **Construction:** Lightweight (from 18.3 g), low rotor inertia (0.8 gcm²), and durable design for extended service life
- **Options:** Custom lead wires, shaft length, special coil windings, and gearhead compatibility
- **Operating Temperature:** Wide range from -20°C to +85°C

Typical Applications:

- Mini UAV propulsion systems
- Remote control hobby models requiring high power density
- Small household appliances needing silent, high-speed drives

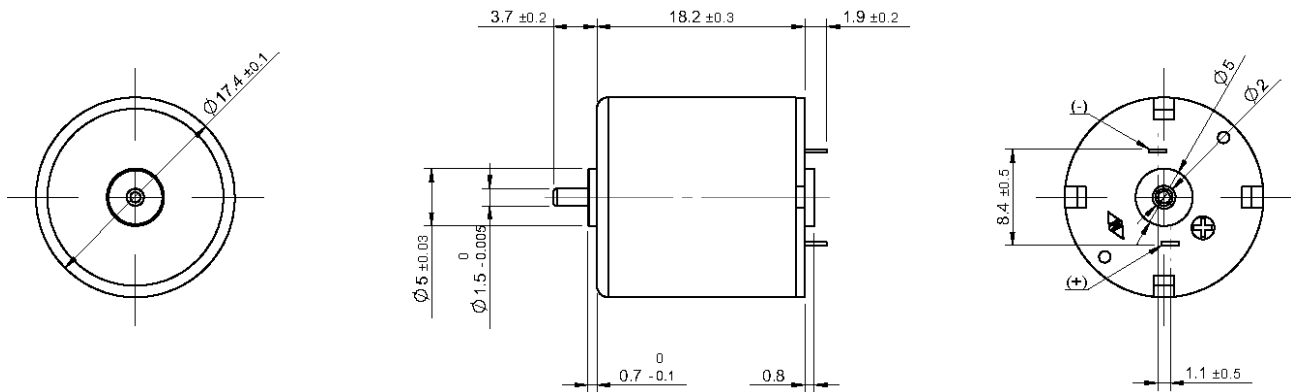
Choose L1718N5M motors for compact solutions where precision, responsiveness, and customizability are essential to your engineering requirements.



<https://www.kocomotion.de/produkt/l1718n5m/>

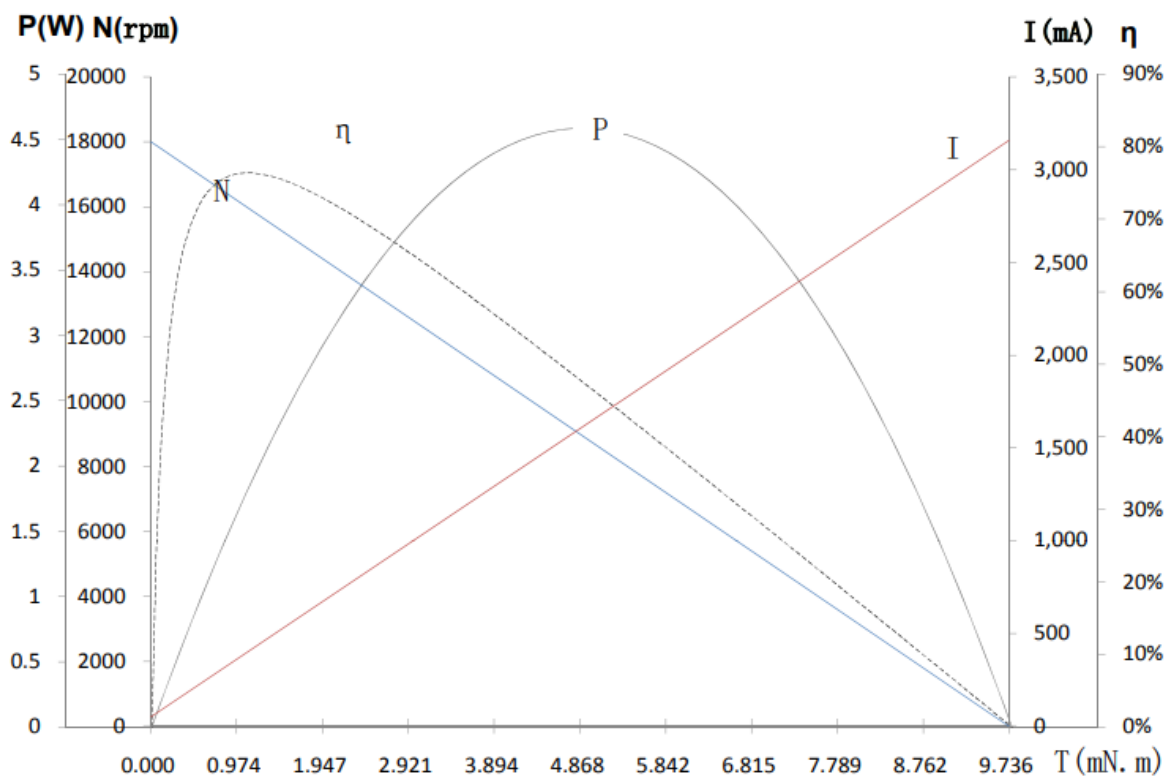
Characteristics	Unit	L1718N5M06-180- 6.0	L1718N5M67-185- 6.5	L1718N5M46-245- 7.4	L1718N5M57-260- 7.4
Rated voltage	V	6.0	6.5	7.4	7.4
Max. output power	W	4.6	6.1	11.3	10.3
Max. efficiency	%	77	79	85	81
Back-EMF constant	mV/rpm	0.3	0.3	0.3	0.3
Torque constant	mNm/A	3.1	3.3	2.9	2.7
Speed/torque gradient	rpm/mNm	1850	1480	1390	1720
Rotor inertia	gcm ²	0.8	0.8	0.8	0.8
Weight	g	18.3	18.3	18.5	20.5
Operating temperature	°C	-20~+85	-20~+85	-20~+85	-20~+85
Outer diameter	mm	17.4 +/- 0.1	17.4 +/- 0.1	17.4 +/- 0.1	17.4 +/- 0.1
Motor length	mm	18.2 +/- 0.3	18.2 +/- 0.3	18.2 +/- 0.3	18.2 +/- 0.3
Terminal resistance	Ω	1.9	1.7	1.2	1.3
No-load speed	rpm	18000	18500	24500	26000
No-load current	mA	50	50	40	60
Stall torque	mNm	9.7	12.5	17.6	15.1
Stall current	mA	3160	3820	6170	5690
Load torque	mNm	1	1	1	2
Load speed	rpm	16150	17020	23110	22570
Load current	mA	370	350	390	800

Drawings



2D drawing L1718N5M

Speed/Thrust Curves



Characteristics Curve / Model L1718N5M06-180-6.0

12V Micro DC Coreless Motors

L1722N5M

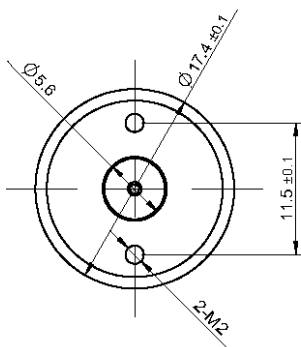
L1722N5M 12V Micro DC Coreless Motor Series - Precious Metal Commutation

- **Compact High-Performance Design:** This series provides lightweight (24.5 g) micro DC coreless motors with precious metal commutation, optimizing for high efficiency and speed in limited space.
- **Exceptional Technical Specifications:**
 - Rated voltages: 7.4V and 12.0V options
 - No-load speed: up to 27,000 rpm
 - Stall torque: up to 27.9 mNm
 - Terminal resistance: as low as 1.1 Ω
 - Max. output power: up to 19.7 W
 - Peak efficiency: 84~85%
 - Operating temperature: -20°C to +85°C
- **Application Versatility:** Ideal for mini UAVs, remote control hobby products, and small household appliances, where compact, high-efficiency drive solutions are required.
- **Customization & Integration:** Available with a variety of options, including adjustable lead wire length, shaft length, special coils, and compatible gearheads for seamless adaptation to unique design requirements.
- **Key Benefits:** Low rotor inertia ensures rapid acceleration and deceleration. Precious metal commutation offers reduced electrical noise and long service life, making this series a reliable choice for precision motion control in demanding environments.

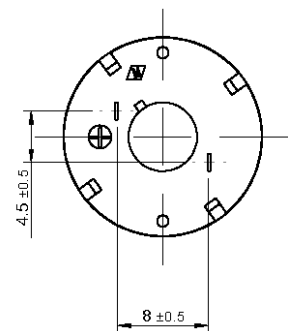
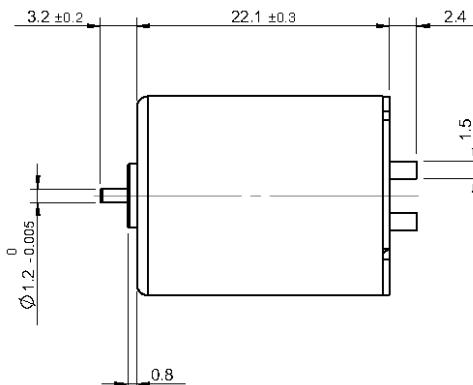
<https://www.kocomotion.de/produkt/l1722n5m/>

Characteristics	Unit	L1722N5M16-200-7.4	L1722N5M08-218-7.4	L1722N5M11-270-12.0
Rated voltage	V	7.4	7.4	12.0
Max. output power	W	12.3	11.3	19.7
Max. efficiency	%	84	85	84
Back-EMF constant	mV/rpm	0.4	0.3	0.4
Torque constant	mNm/A	3.5	3.2	4.2
Speed/torque gradient	rpm/mNm	850	1100	970
Rotor inertia	gcm ²	0.8	0.8	0.8
Weight	g	24.5	24.5	24.5
Operating temperature	°C	-20~+85	-20~+85	-20~+85
Outer diameter	mm	17.4 +/- 0.1	17.4 +/- 0.1	17.4 +/- 0.1
Motor length	mm	22.1 +/- 0.3	22.1 +/- 0.3	22.1 +/- 0.3
Terminal resistance	Ω	1.1	1.2	1.8
No-load speed	rpm	20000	21800	27000
No-load current	mA	45	40	50
Stall torque	mNm	23.5	19.7	27.9
Stall current	mA	6730	6170	6670
Load torque	mNm	1	2	2
Load speed	rpm	19150	19590	25060
Load current	mA	330	660	520

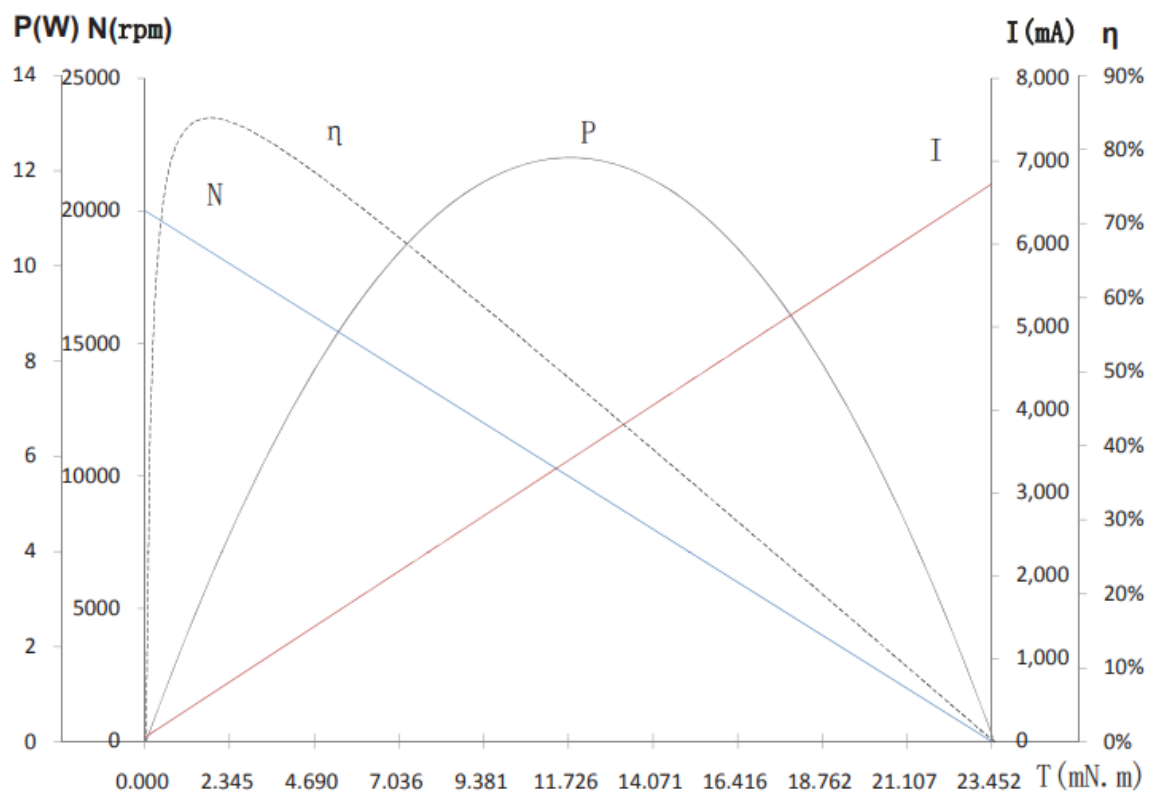
Drawings



2D drawing L1722N5M



Speed/Thrust Curves



Characteristics Curve / Model L1722N5M16-200-7.4

Micro Coreless Vibration Motors

VL0408N3M

VL0408N3M 4mm Micro Coreless Vibration Motors are designed for high-performance vibration applications in minimal spaces. Utilizing **precious metal brushes** and a coreless design, these motors deliver smooth, long-lasting operation with reduced electrical noise and lower inertia for responsive feedback.



- **Technical Specifications:**

- Diameter: 4mm coreless structure
- Voltage Range: 2.7V–3.0V
- Speeds up to 20,000 rpm (model-dependent)
- Operating current: 70–185 mA
- Lightweight: from 0.8g to 1.15g
- Terminal resistance: 12.8Ω–32Ω
- Operating temperature: -10°C to +65°C

- **Application Versatility:**

- Wearable technology (fitness bands, smartwatches)
- Mobile phones and tablets (tactile feedback)
- Healthcare devices (portable medical alert/monitoring equipment)

- **Customization Options:**

- Lead wire length
- Shaft length
- Eccentric weight
- Silicone sets

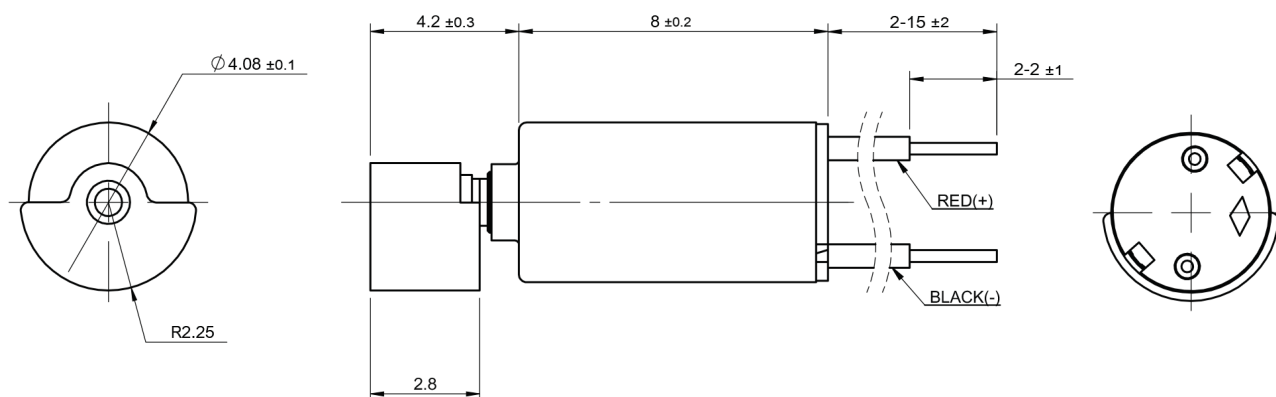
- **Key Benefits:** The ultra-compact form factor and efficient vibration output make VL0408N3M ideal for applications with strict space, weight, and battery constraints. The use of precious metal brushes enhances durability and reliability in demanding portable electronics environments.



<https://www.kocomotion.de/produkt/vl0408n3m/>

Characteristics	Unit	VL0408N3M10-120-3.0	VL0408N3M10-85-2.7	VL0408N3M70-220-3.0
Rated voltage	V	3.0	2.7	3.0
Motor length	mm	8 +/- 0.2	8 +/- 0.2	8 +/- 0.2
Terminal resistance	Ω	32	32	12.8
Speed	rpm	12000	8500	20000
Current	mA	75	70	185
Starting voltage	V	1.4	1.5	1.5
Stall current	mA	95	100	230
Weight	g	0.8	1.15	0.85
Operating temperature	°C	-10 +65	-10 +65	-10 +65
Outer diameter	mm	4.08 +/- 0.1	4.08 +/- 0.1	4.08 +/- 0.1

Drawings



2D drawing VL0408N3M

5mm DC Coreless Vibration Motors

VL0510N3M

VL0510N3M Series – 5mm DC Coreless Vibration Motors

deliver high-performance vibration in a miniature footprint, ideal for compact electronic devices.



• Core Features:

- Diameter: 5mm / Lightweight: 1.5 g
- Operating Voltage: 3.0 V
- Speed Range: Up to 20,000 rpm (model dependent)
- Current Draw: 130–250 mA (typical operating), up to 500 mA stall
- Terminal Resistance: 7.4–17 Ω
- Operating Temperature: -10°C to +65°C
- Precious Metal Brushes for improved contact reliability and service life

• Market Applications:

- Wearable devices: fitness trackers, smart watches
- Mobile phones and tablets: haptic feedback and notifications
- Healthcare electronics: patient monitoring and alert systems

• Customizable Options:

- Lead wire length
- Shaft length and eccentric weight
- Silicone sets for enhanced integration flexibility

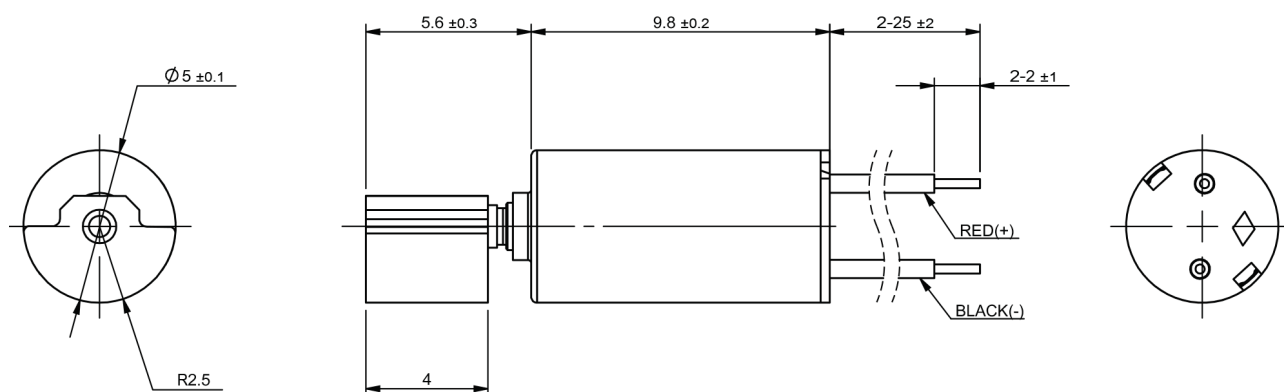
Designed for efficient operation in limited spaces, the VL0510N3M series offers high vibration performance, flexible configurations, and robust reliability, making it the preferred solution for demanding mobile and wearable electronic applications.



<https://www.kocomotion.de/produkt/vl0510n3m/>

Characteristics	Unit	VL0510N3M05-120-3.0	VL0510N3M10-200-3.0	VL0510N3M04-150-3.0
Rated voltage	V	3.0	3.0	3.0
Motor length	mm	9.8 +/- 0.2	9.8 +/- 0.2	9.8 +/- 0.2
Terminal resistance	Ω	17	7.4	10.7
Speed	rpm	12000	20000	15000
Current	mA	130	250	180
Starting voltage	V	0.8	0.8	0.8
Stall current	mA	190	500	420
Weight	g	1.5	1.5	1.5
Operating temperature	$^{\circ}\text{C}$	-10 +65	-10 +65	-10 +65
Outer diameter	mm	5 +/- 0.1	5 +/- 0.1	5 +/- 0.1

Drawings



2D drawing VL0510N3M

6mm DC Coreless Vibration Motor

VL0610N5M

VL0610N5M 6mm DC Coreless Vibration Motor Series

delivers robust vibration output in an ultra-compact form factor, specifically engineered for space-constrained electronic devices. Featuring **precious metal brushes**, these motors ensure long service life and stable electrical performance, making them ideal for critical feedback and notification systems.



- **Size & Weight:** 6mm diameter; weights from 1.6-1.8g, supporting compact integration.
- **Electrical Performance:** Available in models supporting 1.3V, 1.5V, or 3.0V operation, with speeds up to 11,000 rpm and low nominal current (16-65mA) for energy-efficient use.
- **Status & Environment:** Reliable operation across -10°C to +65°C, suitable for most mobile and wearable environments.
- **Mechanical Features:** Coreless design for reduced inertia and rapid response; precious metal brushes for minimized wear and smooth operation.
- **Customization Options:** Configurable lead wire length, shaft length, eccentric weight, and optional silicone sets for tailored assembly.

Applications: The VL0610N5M series is widely deployed in:

- Wearable products (fitness trackers, smartwatches)
- Mobile phones (haptic feedback and alert systems)
- Tablet PCs
- Healthcare and medical devices (patient monitoring, handheld diagnostics)

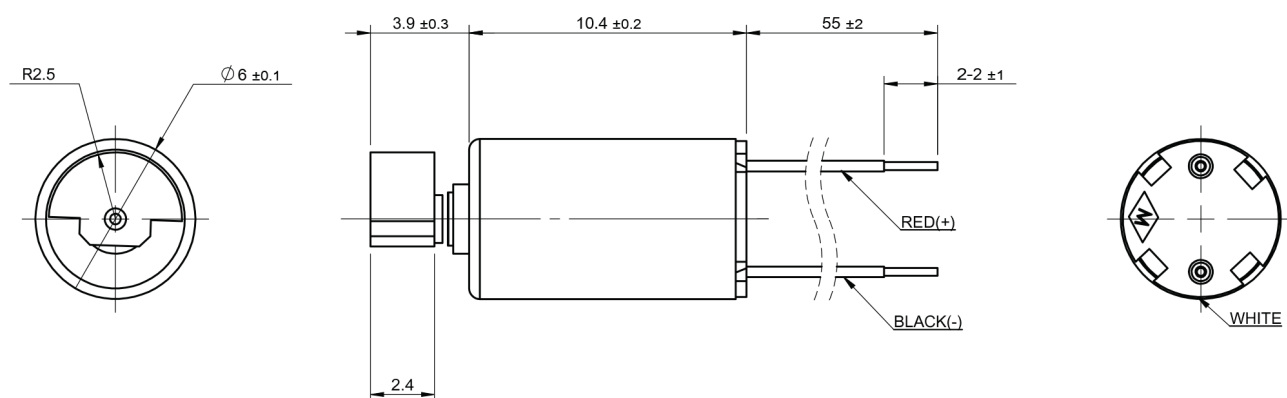
Leverage these motors for high-reliability vibration feedback where precision, compactness, and durability are essential to system performance.



<https://www.kocomotion.de/produkt/vl0610n5m/>

Characteristics	Unit	VL0610N5M36-90-1.5	VL0610N5M80-87-1.3	VL0610N5M40-110-3.0
Rated voltage	V	1.5	1.3	3.0
Motor length	mm	10.4 +/- 0.2	10.4 +/- 0.2	10.4 +/- 0.2
Terminal resistance	Ω	22	13.1	55
Speed	rpm	9000	8700	11000
Current	mA	16	65	20
Starting voltage	V	0.8	0.8	0.8
Stall current	mA	80	120	120
Weight	g	1.6	1.8	1.8
Operating temperature	°C	-10 +65	-10 +65	-10 +65
Outer diameter	mm	6 +/- 0.1	6 +/- 0.1	6 +/- 0.1

Drawings



2D drawing VL0610N5M

6mm DC Coreless Vibration Motor

VL0612N3M

VL0612N3M Series – 6mm DC Coreless Vibration Motors

The VL0612N3M series delivers reliable vibration performance in a miniaturized footprint, making it ideal for integration within modern portable and tactile electronic devices. Engineered with **precious metal brushes**, these motors offer high conductivity, extended operational life, and consistent performance under demanding conditions.



- **Compact Efficiency:** 6mm coreless design for minimal footprint; weight as low as 2.1g supports lightweight applications.
- **High Performance:** Speed ratings from 9,500 to 13,000 rpm, suitable for precision haptic feedback and alert functions.
- **Low Voltage Operation:** Models operate from 1.3V to 3.7V with minimal starting voltage (down to 0.8V), ensuring compatibility with battery-powered devices.
- **Robust Construction:** Terminal resistance from 6.4Ω to 26.4Ω and stall current up to 200mA, enabling stable operation.
- **Operating Range:** Reliable operation between -10°C to +65°C for diverse environmental conditions.
- **Customization Options:** Lead wire and shaft length, eccentric weights, and silicone sets available for design flexibility.

Applications:

- Wearable products
- Mobile phones
- Tablet PCs
- Healthcare products

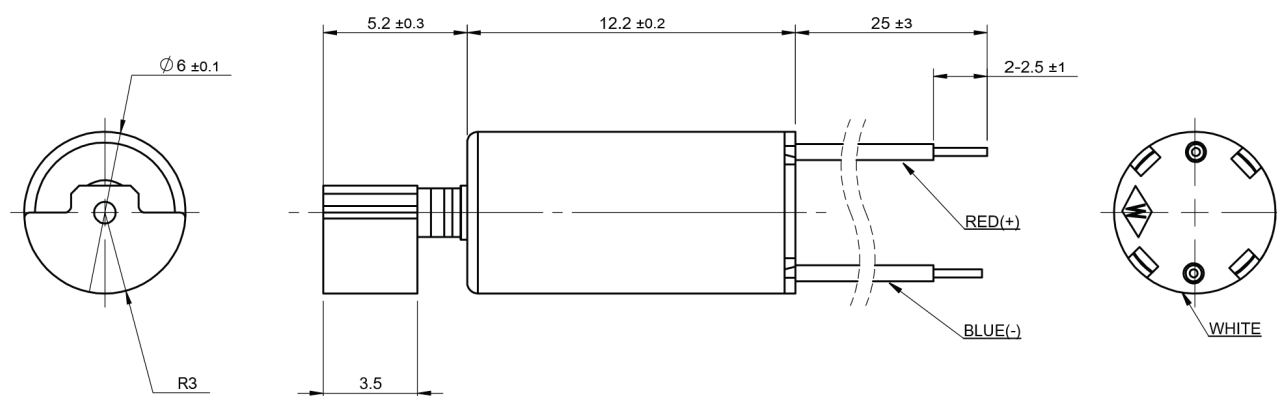
These vibration motors are optimized for precision, longevity, and flexible integration, making them a preferred solution for OEMs seeking advanced vibration feedback in compact electronic devices.



<https://www.kocomotion.de/produkt/vl0612n3m/>

Characteristics	Unit	VL0612N3M42-95-1.3	VL0612N3M24-125-3.7	VL0612N3M52-130-1.5
Rated voltage	V	1.3	3.7	1.5
Terminal resistance	Ω	7.8	26.4	6.4
Speed	rpm	9500	12500	13000
Current	mA	70	80	90
Starting voltage	V	0.8	1.5	0.8
Stall current	mA	200	200	200
Weight	g	2.3	2.49	2.1
Operating temperature	$^{\circ}\text{C}$	-10 +65	-10 +65	-10 +65

Drawings



2D drawing VL0612N3M

6mm DC Coreless Vibration Motor

VL0614N5M

VL0614N5M is a series of precision 6mm DC coreless vibration motors engineered for compact applications requiring reliable haptic and feedback functions. Utilizing precious metal brushes, these motors offer superior conductivity and extended operational life in demanding environments.



- **Technical Specifications:**

- Nominal voltages: 1.3V, 1.5V, and 3.0V
- Speeds up to 15,000 rpm
- Low starting voltage (0.6V) for exceptional sensitivity
- Wide operating temperature range: -10°C to +65°C
- Lightweight construction: 2.25g-2.9g
- Terminal resistance from 3.3 Ω to 18 Ω
- Current: 50-100 mA (operating), 170-180 mA (stall)

- **Key Features and Benefits:**

- Coreless design ensures smooth, efficient operation and reduced electrical noise
- Compact form factor enables integration in space-constrained applications
- Customizable lead wire length, shaft length, eccentric weight, and silicone sets
- Robust performance for continuous operation in a variety of environments

- **Typical Applications:**

- Wearable products
- Mobile phones and tablet PCs
- Healthcare devices and electronic feedback systems

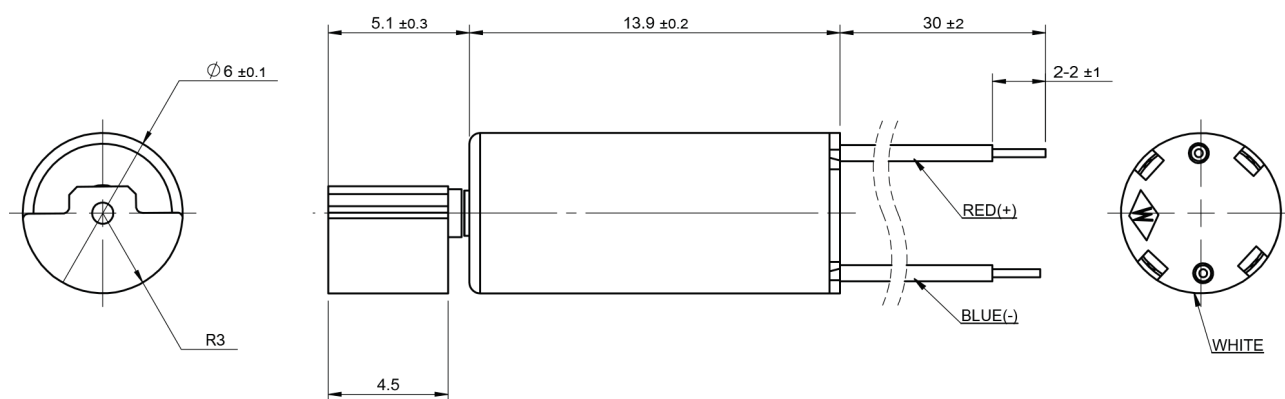
With tailored options for component dimensions and weights, the VL0614N5M series meets diverse industry requirements, ensuring versatile haptic feedback and dependable vibration performance.



<https://www.kocomotion.de/produkt/vl0614n5m/>

Characteristics	Unit	VL0614N5M51-102-3.0	VL0614N5M17-150-1.5	VL0614N5M41-71-1.3
Rated voltage	V	3.0	1.5	1.3
Terminal resistance	Ω	18	3.3	8.1
Speed	rpm	10200	15000	7100
Current	mA	50	100	50
Starting voltage	V	0.6	0.6	0.6
Stall current	mA	180	170	170
Weight	g	2.9	2.25	2.8
Operating temperature	$^{\circ}\text{C}$	-10 +65	-10 +65	-10 +65

Drawings



6mm Micro Coreless Vibration Motor

VL0615N5M

VL0615N5M 6mm Micro Coreless Vibration Motors

deliver high-performance vibration feedback in a remarkably compact form factor. Leveraging **precious metal brushes**, these motors ensure long operational life and reliable electrical contact, making them ideal for demanding embedded applications.



• Key Technical Specifications:

- Available voltages: 1.5 V and 3.0 V
- Speeds up to **25,000 rpm** for efficient tactile response
- Low current operation: as little as 45 mA, stall current up to 1000 mA
- Lightweight design: from 2.6 g to 3.4 g
- Operating temperature range: -10°C to +65°C

• Applications:

- Mobile phones and tablet PCs for haptic feedback
- Wearable and healthcare products requiring precise vibration alerts
- Devices benefiting from micro-actuation in limited spaces

• Customizable Options:

- Shaft length and lead wire lengths for mechanical flexibility
- Eccentric weights to modify vibration strength
- Silicone sets for enhanced durability or environmental resistance

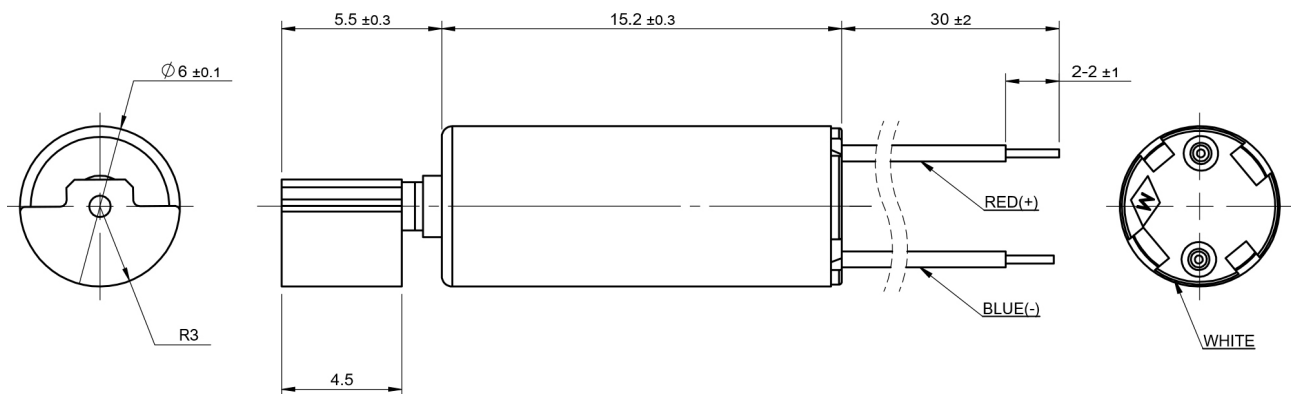
With high-speed performance and versatile customization, the VL0615N5M family is an outstanding solution where compactness, reliability, and effective vibration feedback are critical.



<https://www.kocomotion.de/produkt/vl0615n5m/>

Motor Specifications	Unit	VL0615N5M47-100-3.0	VL0615N5M02-92-1.5	VL0615N5M21-250-3.0
Rated voltage	V	3.0	1.5	3.0
Motor length	mm	15.2 +/- 0.3	15.2 +/- 0.3	15.2 +/- 0.3
Terminal resistance	Ω	20	6.9	2.8
Speed	rpm	10000	9200	25000
Current	mA	45	100	280
Starting voltage	V	0.6	0.8	0.8
Stall current	mA	150	220	1000
Weight	g	3.4	2.8	2.6
	$^{\circ}\text{C}$	-10 - +65	-10 - +65	-10 - +65
Outer diameter	mm	6 +/- 0.1	6 +/- 0.1	6 +/- 0.1

Drawings



Micro Coreless Vibration Motors

VL8.520N5M

VL8.520N5M Series – 8.5mm Micro Coreless Vibration Motors

The VL8.520N5M family comprises precision-engineered micro coreless vibration motors, featuring a compact 8.5mm diameter and advanced precious metal brush commutation for long service life. Designed for demanding applications where space efficiency and reliable tactile feedback are critical, these motors excel in modern consumer and medical devices.



• Key Technical Specifications:

- Nominal Voltage: 3.0 V
- Speed Range: 6,500 to 10,400 rpm (model dependent)
- Current Consumption: as low as 40 mA (typical); stall currents up to 800 mA
- Operating Temperature: -20°C to +65°C
- Lightweight: 6.6 – 8.7 g models available
- Stable operation at low starting voltage (0.8 V)

• Typical Applications:

- Wearable products (smartwatches, fitness bands, medical monitors)
- Mobile phones and tablet PCs (haptic feedback, silent notification)
- Healthcare and portable diagnostic equipment

• Benefits & Options:

- Coreless design provides low inertia and rapid response
- Precious metal brushes ensure reduced electrical noise and improved durability
- Available customization: shaft length, eccentric weights, and silicone sets to fit varied design requirements

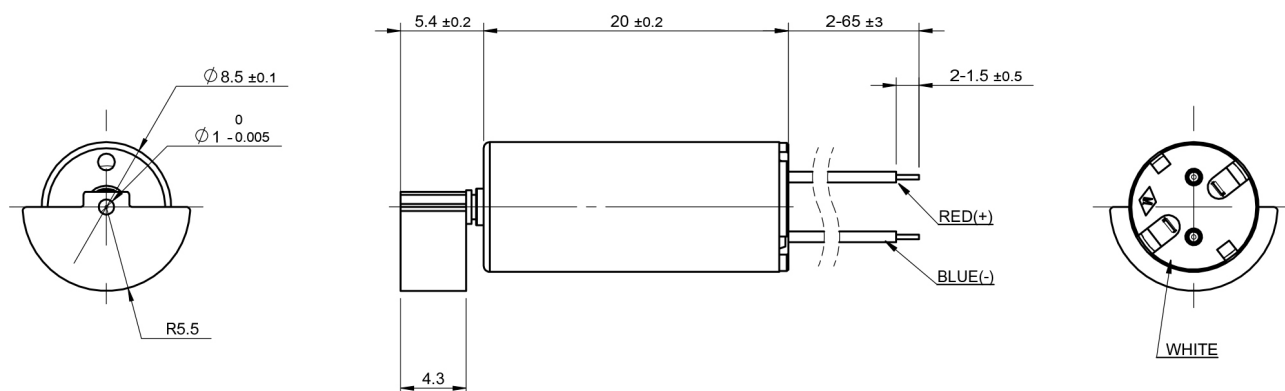
Choose the VL8.520N5M family for reliable micro-vibration actuation in next-generation handheld and wearable products.



<https://www.kocomotion.de/produkt/vl8-520n5m/>

Motor Specifications	Unit	VL8.520N5M62-96-3.0	VL8.520N5M82-93-3.0	VL8.520N5M74-96-3.0
Rated voltage	V	3.0	3.0	3.0
Motor length	mm	20 +/- 0.2	20 +/- 0.2	20 +/- 0.2
Terminal resistance	Ω	8.35	3.75	8.35
Speed	rpm	6500	10400	7300
Current	mA	60	85	40
Starting voltage	V	0.8	0.8	0.8
Stall current	mA	360	800	360
Weight	g	8.7	6.6	6.8
Operating temperature	$^{\circ}\text{C}$	-20~+65	-20~+65	-20~+65
Outer diameter	mm	8.5 +/- 0.1	8.5 +/- 0.1	8.5 +/- 0.1

Drawings



Micro Coreless Vibration Motor, 7mm

VL0716N5M

The **VL0716N5M** micro coreless vibration motor family sets the standard for compact, high-performance actuation in space-constrained electronic devices. Featuring a robust **7mm diameter coreless design** and **precious metal brushes** for optimal electrical contact, these motors deliver reliable vibration feedback in a lightweight form factor.



- **Performance Specifications:**

- Operating Voltage: 3.0–3.7 V (models available)
- Rated Speed: 10,500–14,000 rpm
- Terminal Resistance: 5.4–9.7 Ω
- Typical Current: 110–260 mA (stall current up to 600 mA)
- Weight: 4 g
- Operating Temperature: -10°C to +80°C

- **Key Features & Benefits:**

- Coreless construction enables fast response and low power consumption
- Precious metal brushes for extended lifecycle and improved contact reliability
- Customizable options: lead wire length, shaft length, eccentric weight, and silicone sets

- **Typical Applications:**

- Wearable products (smartwatches, fitness trackers)
- Mobile phones for haptic feedback
- Tablet PCs and portable electronics

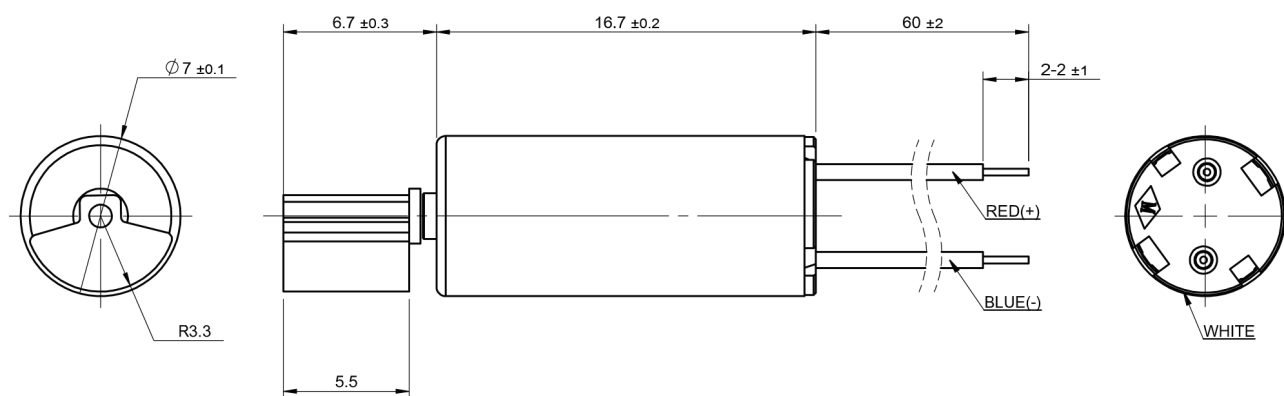
Engineered for integration into next-generation consumer electronics, the VL0716N5M series provides consistent vibration performance and flexibility for designers requiring miniature, efficient actuation solutions.



<https://www.kocomotion.de/produkt/vl0716n5m/>

Characteristics	Unit	VL0716N5M12-105-3.0	VL0716N5M61-130-3.0	VL0716N5M91-140-3.7
Rated voltage	V	3.0	3.0	3.7
Motor length	mm	16.7 +/- 0.2	16.7 +/- 0.2	16.7 +/- 0.2
Terminal resistance	Ω	9.7	5.6	5.4
Speed	rpm	10500	13000	14000
Current	mA	110	180	260
Starting voltage	V	0.8	0.8	0.8
Stall current	mA	300	500	600
Weight	g	4	4	4
Operating temperature	$^{\circ}\text{C}$	-10 +80	-10 +80	-10 +80
Outer diameter	mm	7 +/- 0.1	7 +/- 0.1	7 +/- 0.1

Drawings



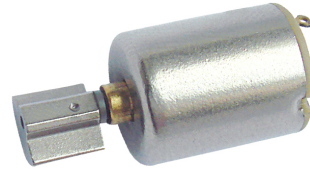
2D drawing VL0716N5M

10mm Micro Coreless Vibration Motor

VL1013N5M

VL1013N5M Series - High-Precision Micro Coreless Vibration Motors

The VL1013N5M family offers compact, 10mm micro coreless vibration motors designed to deliver reliable and consistent vibration solutions in space-constrained devices. Engineered with **precious metal brushes** for enhanced operational life and performance, these motors are optimized for applications requiring low current consumption and high efficiency.



- **Operating Voltage Range:** 1.3V to 3.7V, supporting flexible integration
- **Speed:** Up to 8,900 rpm for dynamic haptic feedback
- **Terminal Resistance:** 7.1Ω to 26.4Ω models, supporting diverse device configurations
- **Current Consumption:** Ranges from 26 mA to 130 mA, minimizing energy demand
- **Operating Temperature:** -20°C to +65°C for robust environmental performance
- **Custom Options:** Available with variable shaft lengths, eccentric weights, and silicone sets for tailored integration

Typical applications include **wearable products, mobile phones, tablet PCs, and healthcare devices**, where compact form factor and dependable vibration are essential. The low starting voltage (0.8V) ensures quick activation, while stall currents up to 380 mA support momentary high-load operations. Each unit delivers a lightweight design (6.1g-7.8g) for minimal impact on portable devices.

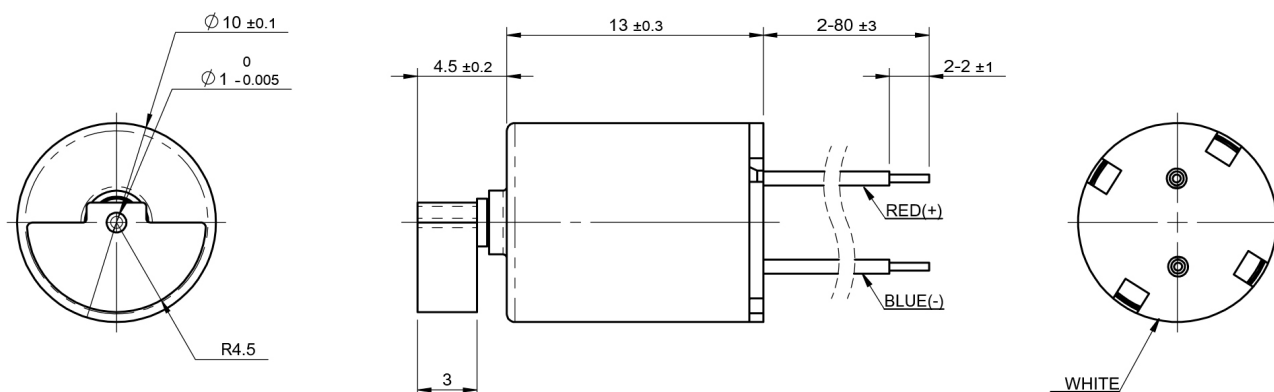
With engineered flexibility and proven reliability, the VL1013N5M series provides precise haptic feedback and silent operation, making it a preferred choice for advanced consumer electronics and medical device applications.



<https://www.kocomotion.de/produkt/vl1013n5m/>

Motor Specifications	Unit	VL1013N5M09-89-3.0	VL1013N5M10-73-3.7	VL1013N5M25-41-1.3
Rated voltage	V	3.0	3.7	1.3
Motor length	mm	13 +/- 0.3	13 +/- 0.3	13 +/- 0.3
Terminal resistance	Ω	7.7	26.4	7.1
Speed	rpm	8900	7200	4100
Current	mA	119	26	130
Starting voltage	V	0.8	0.8	0.8
Stall current	mA	380	140	200
Weight	g	6.1	7.8	6.7
Operating temperature	°C	-20~+65	-20~+65	-20~+65
Outer diameter	mm	10 +/- 0.1	10 +/- 0.1	10 +/- 0.1

Drawings



Micro Coreless Vibration Motors

VL1015N5M

VL1015N5M Micro Coreless Vibration Motors are engineered for precision haptic feedback in compact electronic devices. Utilizing precious metal commutation for enhanced electrical performance and longevity, these motors offer optimal reliability and low noise operation.



- **Technical Specifications:**

- Available rated voltages: 1.3V, 3.0V, 5.0V
- High speed operation: up to 12,900 rpm at 5V
- Typical terminal resistance: 3.5-10.5 Ω (model dependent)
- Low starting voltage (0.8V) for energy-efficient startup
- Current range: 80-140 mA (rated); stall current up to 470 mA
- Lightweight: from 3.5g to 7.85g
- Operating temperature: -20°C to +65°C

- **Applications:**

- Health care devices
- Wearable products
- Mobile phones
- Tablet PCs and portable electronics

- **Benefits & Customization:**

- Quiet and consistent vibration feedback enhances user experience
- Robust performance ensures long-term reliability in demanding applications
- Customizable options including lead wire length, shaft length, eccentric weight, and silicone covers enable flexible integration
- Compact and lightweight design supports miniaturized product requirements

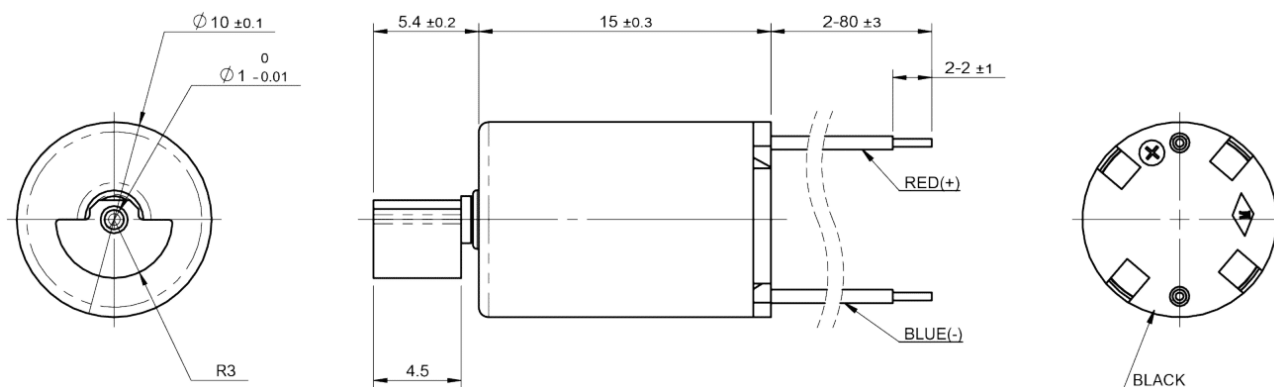
The VL1015N5M motor family is ideal for OEMs seeking a durable, adaptable vibration solution for advanced portable and wearable technologies.



<https://www.kocomotion.de/produkt/vl1015n5m/>

Characteristics	Unit	VL1015N5M96-129-5.0	VL1015N5M99-66-3.0	VL1015N5M65-70-1.3
Rated voltage	V	5.0	3.0	1.3
Motor length	mm	15 +/- 0.3	15 +/- 0.3	15 +/- 0.3
Terminal resistance	Ω	10.5	8.35	3.5
Speed	rpm	12900	6670	7000
Current	mA	80	137	140
Starting voltage	V	0.8	0.8	0.8
Stall current	mA	470	332	380
Weight	g	5.8	7.85	3.5
Operating temperature	°C	-20~+65	-20~+65	-20~+65
Outer diameter	mm	10 +/- 0.1	10 +/- 0.1	10 +/- 0.1

Drawings



10mm DC Core Motor, Precious Metal Brushes

C1012F

C1012F Series - 10mm DC Core Motor with Precious Metal Brushes

The C1012F family delivers high-efficiency miniature DC core motors engineered with precious metal brushes for exceptional conductivity and service life. Designed for demanding low-voltage applications, these motors are ideal where compactness and performance are paramount.

- **Voltage Range:** Options include 2.0V, 3.0V, and 4.5V for versatile integration.
- **Performance:** Achieve speeds from 7,000 up to 32,000 rpm, maximum output power up to 0.84 W, torque up to 1 mNm, and efficiency levels above 44%.
- **Low Weight:** Ranging from just 3g to 3.15g, suitable for weight-sensitive designs.
- **Operating Temperature:** -20°C to +80°C, ensuring reliable operation across diverse environments.
- **Integrated Varistor:** Provides built-in protection for enhanced reliability.
- **Multiple Customization Options:** Lead wire length, shaft length, special coils, and gearheads available to meet application-specific demands.

Applications: Ideally suited for security equipment, small electronic products, remote control model aircraft, personal care devices, and portable electric tools. The C1012F series is an optimal choice for compact, high-speed, and reliable drive solutions, allowing engineers to meet stringent space and power requirements. Choose from various winding and mechanical configurations to address your precise design challenges.



<https://www.kocomotion.de/produkt/c1012f/>

Characteristics	Unit	C1012F43-0045	C1012F43-0108	C1012F43-0113
Rated voltage	V	4.5	2.0	3.0
Max. output power	W	0.84	0.06	0.17
Max. efficiency	%	46.4	46.3	44.7
Back-EMF constant	mV/rpm	0.13	0.24	0.21
Torque constant	mNm/A	1.13	3	1.94
Speed/torque gradient	rpm/mNm	32000	23333	25800
Varistor		Yes	Yes	Yes
Weight	g	3.15	3	3
Operating temperature	°C	-20~+80	-20~+80	-20~+80
Outer diameter	mm	10	10	10
Motor length	mm	12.6 +/- 0.3	12.6 +/- 0.3	12.6 +/- 0.3
Terminal resistance	Ω	3.7	16.5	11.1
No-load speed	rpm	32000	7000	12900
No-load current	mA	80	20	30
Stall torque	mNm	1	0.3	0.5
Stall current	mA	969	120	288
Load torque	mNm	0.29	0.09	0.17
Load speed	rpm	23000	4900	8400
Load current	mA	330	50	120

Drawings

Speed/Thrust Curves

10mm DC Core Micro Motors

C1015F

C1015F Series - 10mm DC Core Motor with Precious Metal Brushes

- **High-Performance Micro Motor:** The C1015F series delivers reliable motion in a miniature 10mm form factor, featuring precious metal brushes for extended service life and consistent electrical performance.
- **Technical Excellence:** Models are available for 3V and 6V operation, with no-load speeds from 5,500 rpm to 20,500 rpm. The motors achieve up to 0.7W of output power and a maximum efficiency of 51.6%. Low terminal resistance (as low as 4.5 Ω) ensures responsive current draw, with stall torques up to 1.3 mNm for strong starting capability. Integrated varistor protection enhances circuit safety.
- **Versatile Applications:** Designed for integration into security equipment, small electronic products, remote control model aircraft, personal care devices, and portable electric tools. Their compact size and light weight (3.9-4.1g) support installation in space-constrained assemblies.
- **Customization & Options:** Users can select from options including variable lead wire lengths, custom shaft lengths, special coil windings, or gearhead attachments, ensuring optimal performance for unique design needs.

With an operating temperature range of -20 to +80°C, the C1015F motors provide reliable function in diverse industrial and consumer environments. The perfect balance of precision, durability, and flexibility makes this series a preferred choice for engineers demanding high-quality micro motion solutions.



<https://www.kocomotion.de/produkt/c1015f/>

Characteristics	Unit	C1015F33-0107	C1015F33-0051	C1015F33-0169
Rated voltage	V	6.0	3.0	3.0
Max. output power	W	0.7	0.06	0.38
Max. efficiency	%	51.6	42.7	45.8
Back-EMF constant	mV/rpm	0.28	0.45	0.19
Torque constant	mNm/A	2.38	5.25	1.56
Speed/torque gradient	rpm/mNm	15769	13750	15000
Varistor		Yes	Yes	Yes
Weight	g	4.1	3.9	4.0
Operating temperature	°C	-20~+80	-20~+80	-20~+80
Outer diameter	mm	10	10	10
Motor length	mm	15 +/- 0.3	15 +/- 0.3	15 +/- 0.3
Terminal resistance	Ω	10	35	4.5
No-load speed	rpm	20500	5500	14700
No-load current	mA	35	15	50
Stall torque	mNm	1.3	0.4	1
Stall current	mA	582	91	680
Load torque	mNm	0.098	0.098	0.098
Load speed	rpm	19000	4200	13300
Load current	mA	75	33	110

Drawings

Speed/Thrust Curves

12mm DC Core Motor – Precious Metal Commutation

C1215F

C1215F Series – 12mm DC Core Motors with Precious Metal Commutation

- **High-Performance Design:** Compact 12mm diameter motors delivering reliable operation with precious metal commutation, maximizing service life and minimizing contact resistance.
- **Performance Range:** Wide voltage range models (1.5V, 3.0V, 3.5V) support no-load speeds from 9,600 to 25,000 rpm, and stall torque values up to 1.8 mNm to meet precise application needs.
- **High Efficiency:** Achieve up to 56.5% maximum efficiency and deliver up to 1.18 W maximum output power, ensuring energy-efficient performance for portable and battery-powered solutions.
- **Flexible Integration:** Standard features include built-in varistor protection, a robust -20°C to $+80^{\circ}\text{C}$ operating range, and lightweight construction ($\approx 5.1\text{--}5.4$ g). Options include various shaft lengths, lead wire extensions, special coils, and compatible gearheads for application-specific adaptation.
- **Typical Applications:** Optimized for use in security equipment, remote control model aircraft, small electronic products, personal care devices, and portable electric tools—making them adaptable in space-constrained and battery-operated environments.

The C1215F motor family provides exceptional reliability, adaptable configurations, and proven performance for precise motion control in compact devices. Tailor your solution with customized options to meet demanding micro-drive requirements.



<https://www.kocomotion.de/produkt/c1215f/>

Characteristics	Unit	C1215F13-0086	C1215F13-0141	C1215F13-0260
Rated voltage	V	3.5	1.5	3.0
Max. output power	W	1.18	0.33	0.18
Max. efficiency	%	56.5	48.8	44.8
Back-EMF constant	mV/rpm	0.13	0.12	0.27
Torque constant	mNm/A	1.28	1.2	2.99
Speed/torque gradient	rpm/mNm	13912	10455	13714
Varistor		Yes	Yes	Yes
Weight	g	5.4	5.4	5.1
Operating temperature	°C	-20~+80	-20~+80	-20~+80
Outer diameter	mm	12	12	12
Motor length	mm	15.6 +/- 0.3	15.6 +/- 0.3	15.6 +/- 0.3
Terminal resistance	Ω	1.7	1.2	10.8
No-load speed	rpm	25000	11500	9600
No-load current	mA	100	110	40
Stall torque	mNm	1.8	1.1	0.7
Stall current	mA	1506	1030	274
Load torque	mNm	0.294	0.294	0.294
Load speed	rpm	20910	8500	5500
Load current	mA	330	350	140

Drawings

Speed/Thrust Curves

Micro DC Core Motors, Precious Metal Commutation

C1220F

The C1220F Micro DC Core Motor Series is designed for demanding precision applications requiring compact size and dependable performance. Featuring advanced **precious metal commutation**, these 12 mm, lightweight (approx. 7.8 g) motors offer highly reliable operation and excellent electrical efficiency across a broad speed and torque range.

- **Performance:** Voltage options include 4.5V, 5.0V, and 6.0V. Achieve no-load speeds from 9,500 rpm up to 18,500 rpm, with stall torque up to 3.6 mNm and maximum output power up to 1.75 W.
- **Technical Advantages:** Terminal resistance as low as 2.5 Ω , low no-load current (starting at 45 mA), and high efficiency (up to 48.7%). Integrated varistor protection enhances durability, while the robust operating temperature range (-20°C to +80°C) supports various environments.
- **Applications:** Optimized for security equipment, portable electric tools, personal care devices, small electronic products, and RC model aircraft, where high precision and reliability are critical.
- **Customization Options:** Shaft length, lead wires, special coil windings, and gearheads are available to accommodate specific application requirements.

With their blend of compact design, versatility, and premium commutation, C1220F motors provide a competitive edge for OEMs seeking superior motion solutions in space-constrained devices.



<https://www.kocomotion.de/produkt/c1220f/>

Characteristics	Unit	C1220F35-0083	C1220F35-0103	C1220F35-0158
Rated voltage	V	6.0	5.0	4.5
Max. output power	W	0.94	1.75	0.42
Max. efficiency	%	48.0	48.7	34.5
Back-EMF constant	mV/rpm	0.41	0.26	0.43
Torque constant	mNm/A	3.27	1.82	2.62
Speed/torque gradient	rpm/mNm	5306	5139	5588
Varistor		Yes	Yes	Yes
Weight	g	7.9	7.8	7.8
Operating temperature	°C	-20~+80	-20~+80	-20~+80
Outer diameter	mm	12	12	12
Motor length	mm	20.6 +/- 0.3	20.6 +/- 0.3	20.6 +/- 0.3
Terminal resistance	Ω	7.4	2.5	10
No-load speed	rpm	13800	18500	9500
No-load current	mA	50	70	45
Stall torque	mNm	2.6	3.6	1.7
Stall current	mA	846	2043	693
Load torque	mNm	0.294	0.294	0.196
Load speed	rpm	12240	17000	8400
Load current	mA	140	230	120

Drawings

Speed/Thrust Curves

16mm DC Core Motor, Precious Metal Brush

C1627F

C1627F Series 16mm DC Core Motors deliver reliable performance and precision in a compact package, engineered with precious metal commutation for low contact resistance and extended lifespan. These motors are available in multiple variants to meet diverse voltage and load demands.

- **Key Technical Specifications:**

- Voltage options: 6.0V or 12.0V
- Compact 16mm diameter, weight: 16.7g
- No-load speeds: Up to 20,200 rpm (model dependent)
- Stall torque: Up to 5.4 mNm
- High efficiency (up to 61.5%) and robust speed/torque gradients
- Operating temperature: -20°C to +80°C
- Integrated varistor for electrical protection

- **Main Applications:** Suitable for use in security equipment, remote control model aircraft, personal care devices, small electronics, and portable electric tools where compact size and reliable motion control are essential.

- **Customizable Options:** Lead wire length, shaft length, special coils, and gearheads are available to optimize the motor for specific application requirements.

- **Competitive Advantages:** The C1627F series stands out for its compact footprint, high-speed capability, and adaptability, making it a preferred solution for design engineers requiring reliable performance and precise motion in space-constrained environments.



<https://www.kocomotion.de/produkt/c1627f/>

Characteristics	Unit	C1627F34AH-0055	C1627F34AH-0063	C1627F34AH-0064
Rated voltage	V	6.0	12.0	6.0
Max. output power	W	0.85	0.72	2.86
Max. efficiency	%	51.9	61.5	56.7
Back-EMF constant	mV/rpm	0.64	1.38	0.29
Torque constant	mNm/A	6.28	16.08	2.45
Speed/torque gradient	rpm/mNm	2293	2332	3741
Varistor		Yes	Yes	Yes
Weight	g	16.7	16.7	16.7
Operating temperature	°C	-20~+80	-20~+80	-20~+80
Outer diameter	mm	15.5 +/- 0.15	15.5 +/- 0.15	15.5 +/- 0.15
Motor length	mm	26.9 +/- 0.3	26.9 +/- 0.3	26.9 +/- 0.3
Terminal resistance	Ω	8.8	49	2.4
No-load speed	rpm	8600	8000	20200
No-load current	mA	55	20	100
Stall torque	mNm	3.75	3.43	5.4
Stall current	mA	652	233	2304
Load torque	mNm	0.79	0.59	0.39
Load speed	rpm	6800	6500	19100
Load current	mA	180	60	220

Drawings

Speed/Thrust Curves

16mm 12V DC Graphite Brush Motor

C1628R

C1628R 16mm 12V DC Graphite Brush Motor

- **Voltage:** 12 V
- **No-load Speed:** 10,800 rpm
- **No-load Current:** 63 mA
- **Stall Torque:** 5.9 mNm
- **Stall Current:** 700 mA
- **Load Torque:** 1.96 mNm
- **Load Speed:** 7,200 rpm
- **Load Current:** 275 mA
- **Max. Output Power:** 1.67 W
- **Max. Efficiency:** 47.1%
- **Torque Constant:** 9.26 mNm/A
- **Varistor Protection:** Yes
- **Weight:** 20.8 g
- **Operating Temp.:** -20°C to +60°C

Featuring a robust graphite brush system, the C1628R motor delivers reliable performance and long service life in compact applications. Integrated varistor protection safeguards sensitive electronics from voltage spikes, making it ideal for smart home devices, small electronic products, and portable applications where both precision and durability are essential.

- Customizable options for shaft length and coil specifications support a wide range of OEM requirements.
- Compact and lightweight, allowing easy integration into space-constrained designs.
- Suitable for continuous operation in varied environments due to an extended temperature range.

Choose the C1628R for high-efficiency, versatile motion control in modern electronic systems.



<https://www.kocomotion.de/produkt/c1628r/>

Characteristics	Unit	C1628R31-0108
Rated voltage	V	12
Max. efficiency	%	47.1
Torque constant	mNm/A	9.26
Speed/torque gradient	rpm/mNm	1831
Varistor		Yes
Weight	g	20.8
Operating temperature	°C	-20~+60
Outer diameter	mm	16 +/- 0.2
Motor length	mm	27.6 +/- 0.3
No-load speed	rpm	10800
No-load current	mA	63
Stall torque	mNm	5.9
Stall current	mA	700
Load torque	mNm	1.96
Load speed	rpm	7200
Load current	mA	275
Max. output power	W	1.67

Drawings

Speed/Thrust Curves

16mm DC Graphite Core Motor

C1636R

C1636R 16mm DC Core Graphite Motor

- **Rated Voltage:** 24 V
- **No-load Speed:** 14,526 rpm
- **No-load Current:** 75 mA
- **Stall Torque:** 24.6 mNm
- **Stall Current:** 2,107 mA
- **Max Output Power:** 9.36 W
- **Max Efficiency:** 52.4%
- **Weight:** 32 g
- **Operating Temperature:** 0 - 60°C
- **Varistor Protection:** Yes



This high-performance DC motor is equipped with durable graphite brushes for extended service life and consistent electrical contact. Its compact size and robust output make it ideally suited for integration into **small electronic devices, portable electric tools**, and advanced **smart bike** systems where space and efficiency are critical.

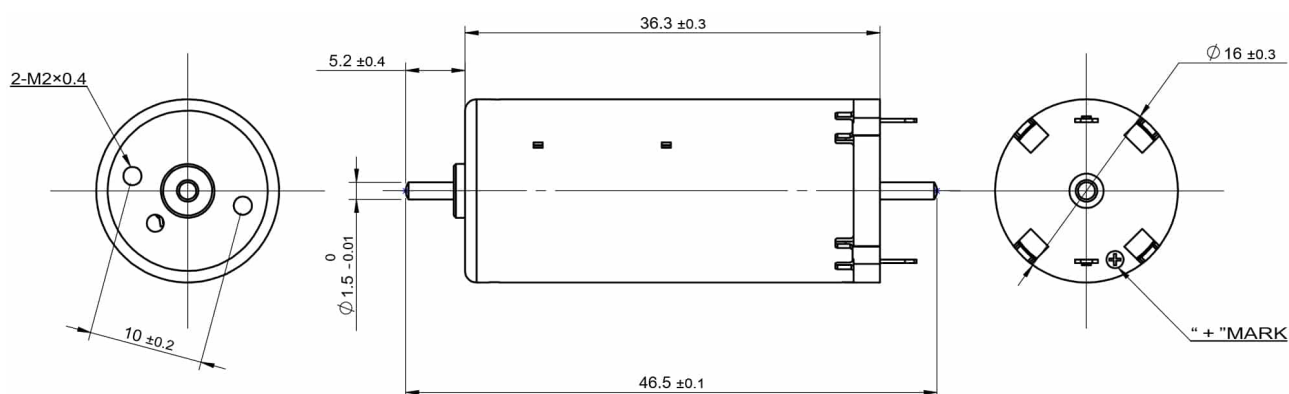
Customizable features such as special coils and shaft length options enable engineers and OEMs to optimize the motor for unique application requirements. The C1636R guarantees reliable operation, superior torque delivery, and energy efficiency, providing a competitive advantage for high-end compact equipment. Suitable for both mass-production and specialized industrial applications where quality and performance cannot be compromised.



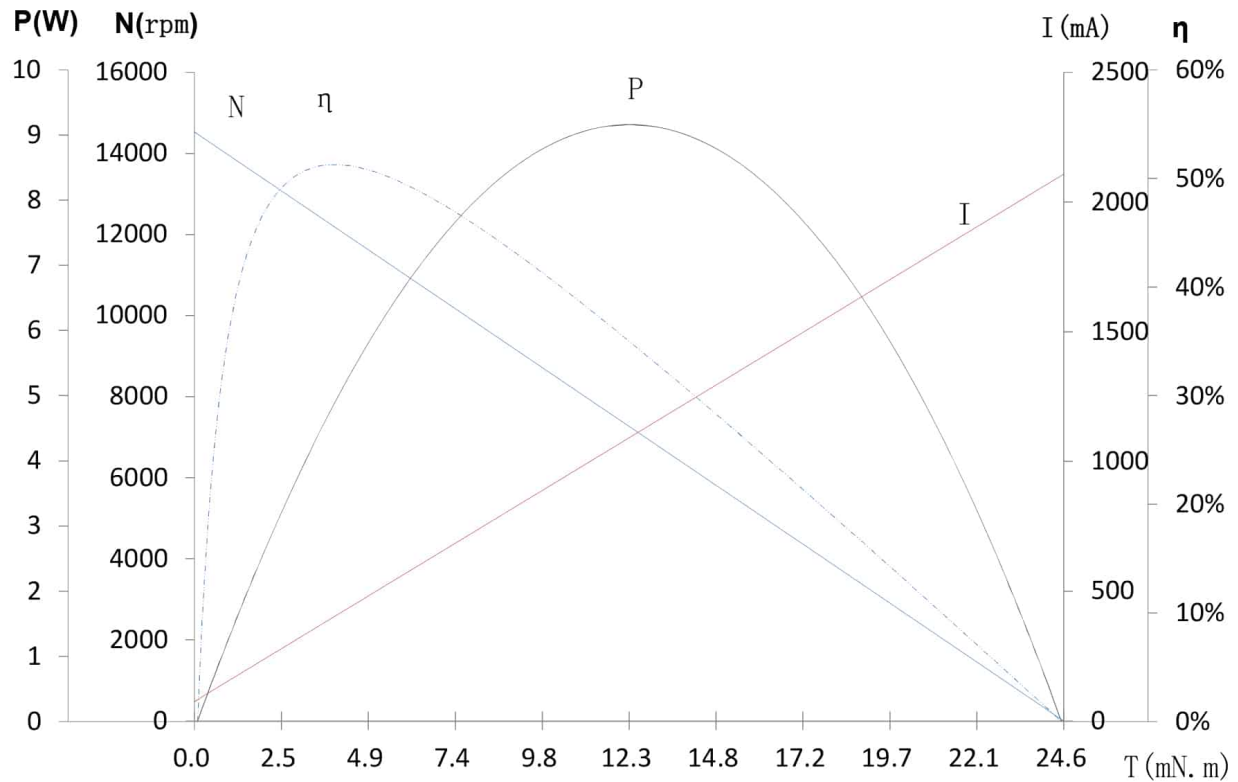
<https://www.kocomotion.de/produkt/c1636r/>

Motor Specifications	Unit	C1636R31-0111
Rated voltage	V	24.0
Max efficiency	%	52.4
Torque constant	mNm/A	12.11
Speed/torque gradient	rpm/mNm	590
Weight	g	32
Varistor		Yes
	°C	0 - 60
Outer diameter	mm	16 +/- 0.3
Motor length	mm	36.3 +/- 0.3
No-load speed	r	14526
No-load current	mA	75
Stall torque	mNm	24.6
Stall current	mA	2107
Load torque	mNm	1.96
Load speed	rpm	13368
Load current	mA	237
Max output power	W	9.36

Drawings



Speed/Thrust Curves



17mm DC Core Motors, Precious Metal Brushes

C1718R

C1718R Series – Precision 17mm DC Core Motors

The C1718R family delivers reliable performance in compact spaces, combining **precious metal brush technology** with versatile DC core configurations. Designed for demanding OEM and industrial applications, these motors offer:

- **Wide Voltage Options:** 6.0V, 7.4V, and 11.0V models for versatile power requirements.
- **High-Speed Performance:** No-load speeds from 16,000 to 25,200 rpm; maximum output power up to 3.71 W.
- **Efficiency:** Maximum efficiency up to 61.1% assures minimal energy loss.
- **Robust Construction:** Precious metal brushes ensure low friction, longer life, and stable electrical contact.
- **Lightweight:** Weights range from 12.6g to 14.5g for integration in weight-sensitive applications.
- **Integrated Varistor:** Enhanced electrical protection for improved durability.
- **Operating Temperature:** Reliable operation from -20°C up to +60°C (withstand up to +80°C).
- **Customizable:** Shaft length, lead wire length, gearhead compatibility, and special coil designs available on request.

Typical Applications:

- Security and surveillance equipment
- Remote-control model aircraft
- Personal care appliances
- Portable electric tools
- Small electronic products

Choose the C1718R family for high-speed, compact DC motor solutions where precision, longevity, and flexible integration are critical.



<https://www.kocomotion.de/produkt/c1718r/>

Characteristics	Unit	C1718R14-0025	C1718R34B-0059	C1718R14B-0091
Rated voltage	V	6.0	7.4	11.0
Max. output power	W	1.60	2.74	3.71
Max. efficiency	%	60.6	61.1	57.2
Back-EMF constant	mV/rpm	0.31	0.45	0.42
Torque constant	mNm/A	3.27	4.08	3.77
Speed/torque gradient	rpm/mNm	5612	2449	4490
Varistor		Yes	Yes	Yes
Weight	g	12.6	14.5	12.8
Operating temperature	°C	-20~+60	-20~+60	-20~+60
Outer diameter	mm	17.8 +/- 0.3	17.8 +/- 0.3	17.8 +/- 0.3
Motor length	mm	17 + 0.4/- 0.1	17 + 0.4/- 0.1	17 + 0.4/- 0.1
Terminal resistance	Ω	4	3	5.1
No-load speed	rpm	18500	16000	25200
No-load current	mA	80	70	80
Stall torque	mNm	3.3	6.53	5.61
Stall current	mA	1089	1670	1569
Load torque	mNm	0.39	0.49	0.49
Load speed	rpm	16300	14800	23000
Load current	mA	200	190	210

Drawings

Speed/Thrust Curves

17mm DC Core Graphite Motor

C1723R

The **C1723R series 17mm DC core graphite motors** deliver exceptional reliability and performance in demanding compact applications. Utilizing high-durability graphite brushes, these motors excel in longevity and stable electrical contact, making them suitable for continuous or frequent operation.

- **Key Technical Specifications:**

- Voltage options: 7.4V and 12V
- No-load speed up to 18,800 rpm
- Stall torque up to 11.77 mNm
- Max output power up to 5.31 W
- High efficiency, up to 57.1%
- Low weight: 18.2g
- Operating temperature: -20 to +80°C
- Integrated varistor for improved surge protection

- **Key Benefits:**

- Graphite brushes extend life and reduce maintenance compared to standard carbon brushes
- Compact form factor fits seamlessly into space-constrained assemblies
- Excellent speed-torque characteristics offer precise motion control
- Customization available: shaft length, lead wire length, coil options, and gearhead compatibility

- **Applications:**

- Small electronic products
- Portable electric tools
- Smart door lock actuation and security devices

With adaptability for varied design requirements and robust electrical performance, the C1723R family stands as an optimal solution for OEMs seeking high-speed, long-life DC motor technology in compact packages.



<https://www.kocomotion.de/produkt/c1723r2/>

Motor Characteristics	Unit	C1723R31B-0114	C1723R31B-0159	C1723R31B-0165
Rated voltage	V	7.4	12.0	12.0
Max efficiency	%	46.5	57.1	47.7
Torque constant	mNm/A	2.51	5.38	4.49
Speed/torque gradient	rpm/mNm	2089	1878	1461
Varistor	Yes/No	Yes	Yes	Yes
Weight	g	18.2	18.2	18.2
Operating temperature	°C	-20~+80	-20~+80	-20~+80
Outer diameter	mm	17 + 0.4/- 0.1	17 + 0.4/- 0.1	17 + 0.4/- 0.1
Motor length	mm	22.8 +/- 0.3	22.8 +/- 0.3	22.8 +/- 0.3
No-load speed	rpm	18800	18400	17200
No-load current	mA	120	80	80
Stall torque	mNm	9	9.8	11.77
Stall current	mA	3700	1900	2700
Load torque	mNm	0.49	0.88	0.49
Load speed	rpm	17780	16700	16500
Load current	mA	310	240	180
Max output power	W	4.43	4.73	5.31

Drawings

Speed/Thrust Curves

20mm DC Core Motor, Graphite Brush

C2032F

The C2032F series offers a robust solution for compact motion control applications requiring reliability and high efficiency. Featuring a 20mm diameter and graphite brush commutation, these motors provide precise performance across three voltage variants (6V, 9V, and 12V).

- **Key Technical Specifications:**

- Voltage options: 6.0V, 9.0V, 12.0V
- No-load speed: up to 8,700 rpm
- Stall torque: up to 12.8 mNm
- Maximum output power: up to 2.83 W
- High efficiency: up to 64.9%
- Varistor integrated for electrical protection
- Compact and lightweight: only 33g
- Operating temperature range: 0°C to +60°C

- **Applications:**

- Small electronic products
- Portable electric tools
- Smart door lock mechanisms

- **Benefits & Options:**

- Durable graphite brushes for extended life
- Customizable shaft lengths and special coil configurations available
- Stable performance ideal for demanding environments

Engineers and OEMs choose the C2032F series for its balance of power density, electrical efficiency, and flexible integration into precision devices where space and reliability are critical.



<https://www.kocomotion.de/produkt/c2032f/>

Characteristics	Unit	C2032F41-0141	C2032F41-0142	C2032F41-0159
Rated voltage	V	6.0	9.0	12.0
Max. efficiency	%	64.9	64.5	56.9
Torque constant	mNm/A	8.14	10.71	11.89
Speed/torque gradient	rpm/mNm	611	639	701
Varistor	Yes/No	Yes	Yes	Yes
Weight	g	33	33	33
Operating temperature	°C	0~+60	0~+60	0~+60
Outer diameter	mm	20.3 +/- 0.2	20.3 +/- 0.2	20.3 +/- 0.2
Motor length	mm	32 +/- 0.3	32 +/- 0.3	32 +/- 0.3
No-load speed	rpm	7400	8200	8700
No-load current	mA	89	65	57
Stall torque	mNm	12.1	12.8	12.4
Stall current	mA	1576	1264	1101
Load torque	mNm	1.8	2.27	1.57
Load speed	rpm	6300	6750	7600
Load current	mA	310	277	189
Max. output power	W	2.35	2.76	2.83

Drawings

Speed/Thrust Curves

24mm DC Core Motor with Precious Metal Brushes

C2430R

C2430R Series 24mm DC Core Motors offer a blend of compact dimensions, efficient performance, and versatility. Equipped with precious metal brushes, these motors are engineered for applications demanding low electrical noise, high reliability, and smooth operation.

- **Key Technical Specifications:**

- Available rated voltages: 3.7 V, 12 V, and 24 V
- No-load speeds: Up to 6,350 rpm
- Stall torque: Up to 23.5 mNm
- Max. output power: Up to 3.91 W
- High efficiency: Up to 66.3%
- Operating temperature: -20°C to +80°C
- Low weight: 12.6–14.5 g (model dependent)
- Integrated varistor for enhanced circuit protection

- **Applications:**

- Security equipment and access control
- Small electronic devices and personal care products
- Remote control model aircraft
- Portable electric tools

- **Customizable Options:**

- Lead wires and shaft lengths
- Special coil configurations
- Compatible gearheads for extended versatility

With its compact 24mm frame and customization capability, the C2430R series is a superior choice for engineers seeking high-performance brushed DC motors for compact, demanding applications.



<https://www.kocomotion.de/produkt/c2430r/>

Characteristics	Unit	C2430R23-0021	C2430R43-0010	C2430R44-0039
Rated voltage	V	24.0	12.0	3.7
Max. output power	W	0.43	2.59	3.91
Max. efficiency	%	46.7	62.5	66.3
Back-EMF constant	mV/rpm	9.18	1.89	0.57
Torque constant	mNm/A	63.19	17.07	5.16
Speed/torque gradient	rpm/mNm	383	382	270
Varistor	Yes/No	Yes	Yes	Yes
Weight	g	12.6	14.5	12.8
Operating temperature	°C	-20 +80	-20 +80	-20 +80
Outer diameter	mm	24.4	24.4	24.4
Motor length	mm	30.8 +/- 0.3	30.8 +/- 0.3	30.8 +/- 0.3
Terminal resistance	Ω	260	11	0.8
No-load speed	rpm	2500	6150	6350
No-load current	mA	4	35	130
Stall torque	mNm	6.53	16.1	23.5
Stall current	mA	107	978	4683
Load torque	mNm	1.96	1.96	1.96
Load speed	rpm	1750	5400	5820
Load current	mA	35	150	510

Drawings

Speed/Thrust Curves



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