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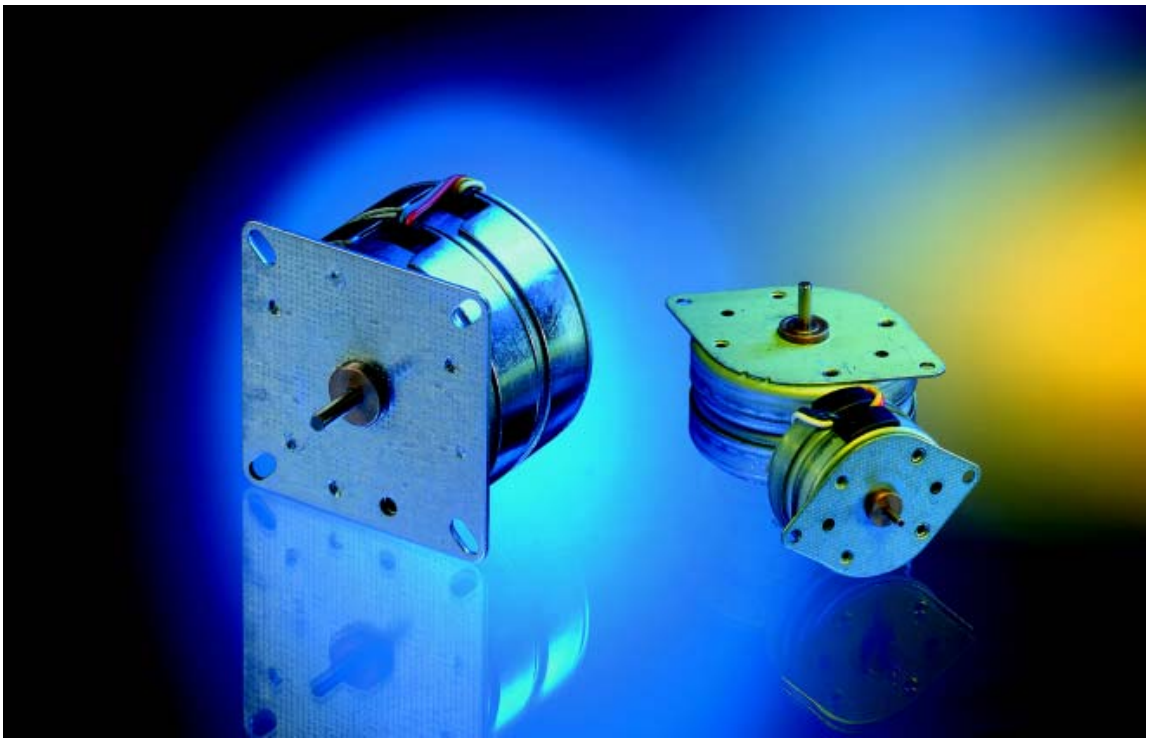
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Find the *Schneider Electric / Berger-Lahr RDM 57/12* at our website: *Click HERE*



2-phase stepping motors

With the stepping motors from Berger Lahr, positioning problems can be solved in a precise, simple and cost-effective manner. Berger Lahr provides hybrid stepping motors and claw-pole stepping motors. These stepping motors are being used in their millions around the world and have proved their worth.

On request we will be happy to tell you of more motor/gearbox options besides those presented here.

Overview of 2-phase stepping motors

	Step angle [°]	Max. torque bipolar [Ncm]	Max. torque unipolar [Ncm]	Described on...
RDM 36/6	15	1.24	0.75	Page 53
RDM 36/8	11.25	1.27	0.7	Page 55
RDM 36/10	9	1.18	0.73	Page 57
RDM 36/12	7.5	1.18	0.6	Page 59
RDM 42/12	7.5	4.1	3.1	Page 61
RDM 51/6	15	5.5	3.1	Page 63
RDM 51/8	11.25	6.8	4.1	Page 65
RDM 51/12	7.5	6.9	4.9	Page 67
RDM 63/10	9	22.5	12.5	Page 69
RDM 63/12	7.5	25.5	15	Page 71

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2-phase stepping motors

Type code for 2-phase stepping motors

Example	**RDM 36/10 G A2 62 mA - L 25:1**
Product family RDM= Reversible Digital Motor (2-Phase)	**RDM** 36/10 G A2 62mA - L 25:1
Motor size (diameter) Example 36 = 36 mm diameter 42 = 42 mm diameter 51 = 51 mm diameter 63 = 63 mm diameter	RDM **36**/10 G A2 62mA - L 25:1
Number of pole pairs 6= number of polepairs p = 6 8= number of polepairs p = 8 10 = number of polepairs p = 10 12= number of polepairs p = 12	RDM 36/**10** G A2 62mA - L 25:1
Bearings G = Plain bearing	RDM 36/10 **G** A2 62mA - L 25:1
Switching / winding A1 = bipolar A2 = unipolar	RDM 36/10 G **A2** 62mA - L 25:1
Max. current per winding Example: 62mA = 0.62 A	RDM 36/10 G A2 **62mA** - L 25:1
Gearbox type Gearbox type L Gearbox type T Gearbox type G Gearbox type P	RDM 36/10 G A2 62mA - **L** 25:1
Gearbox reduction Example 25 :1	RDM 36/10 G A2 62mA - L **25:1**

General technical information

Bearing designs

The claw-pole stepping motors, RDM 36/x, 42/x, 51/x and 63/x are fitted with plain bearings.

Temperatures

The permissible ambient temperature for the synchronous motors lies in the range from - 20°C to + 60°C.

In locations with poor heat dissipation, e.g. in closed plastic housings, a check should be made to see if the permissible winding temperature is being exceeded.

Type of connection

Claw-pole stepping motors are available with flying leeds. The flying leads are hard-wired, bared, tin-plated and 200 mm in length.

Switching characteristics of the bipolar design

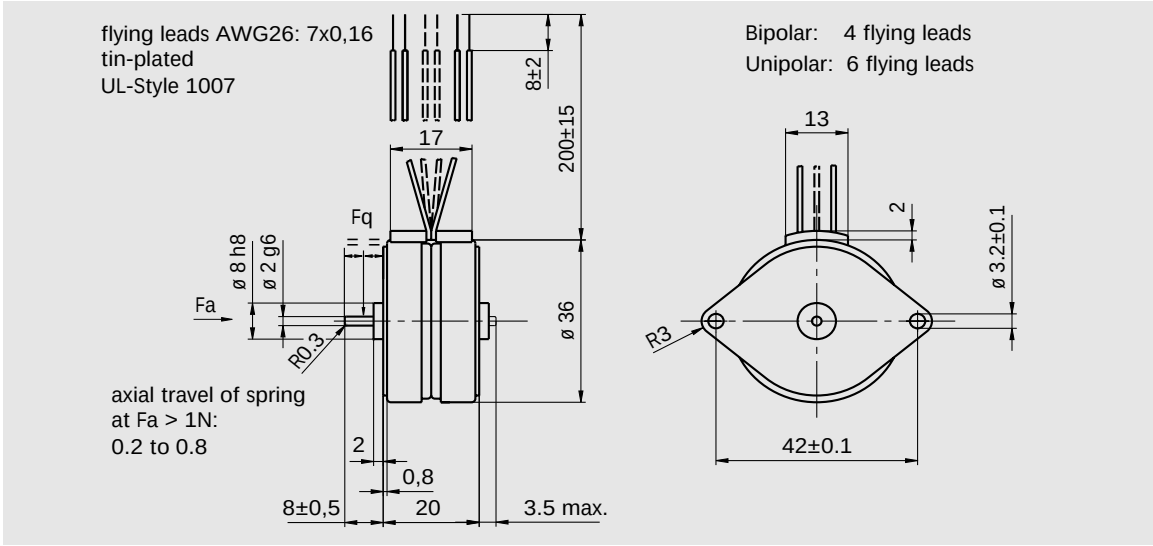
The distinctive characteristic of a bipolar arrangement is that each motor phase consists of one winding (coil). This means that the whole volume of copper on the coil contributes to the formation of torque.

Switching characteristics of the unipolar design

In a unipolar arrangement, each motor phase (coil) consists of two winding halves. In operation only one winding ever carries current at one time. The switching power required in the amplifier is 50% less than for the bipolar arrangement. This means that motor controls can be realised more cost effectively.

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2-phase stepping motors
RDM 36/6



Scale drawing RDM 36/6

Technical data

	Control diagram	
	Bipolar	**Unipolar**
Steps / revolution	24	24
Step angle	15°	15°
Step angle tolerance	± 4%	± 4%
Max. torque	1.24 Ncm	0.75 Ncm
Holding torque (excited)	1.9 Ncm	1.4 Ncm
Rotor moment of inertia	2 gcm^2	2 gcm^2
Max. current per winding	0.23 A	0.115 A
Resistance per winding	26 Ω	105 Ω
Permitted shaft load	Axial stress F_a = 1 N, radial stress F_q = 3 N	
Weight approx.	0.075 kg	0.075 kg
Protection grade	IP 41	IP 41
Insulation class	E to VDE 0530	E to VDE 0530
Insulation class	Momentary test: test voltage to VDE 0530	

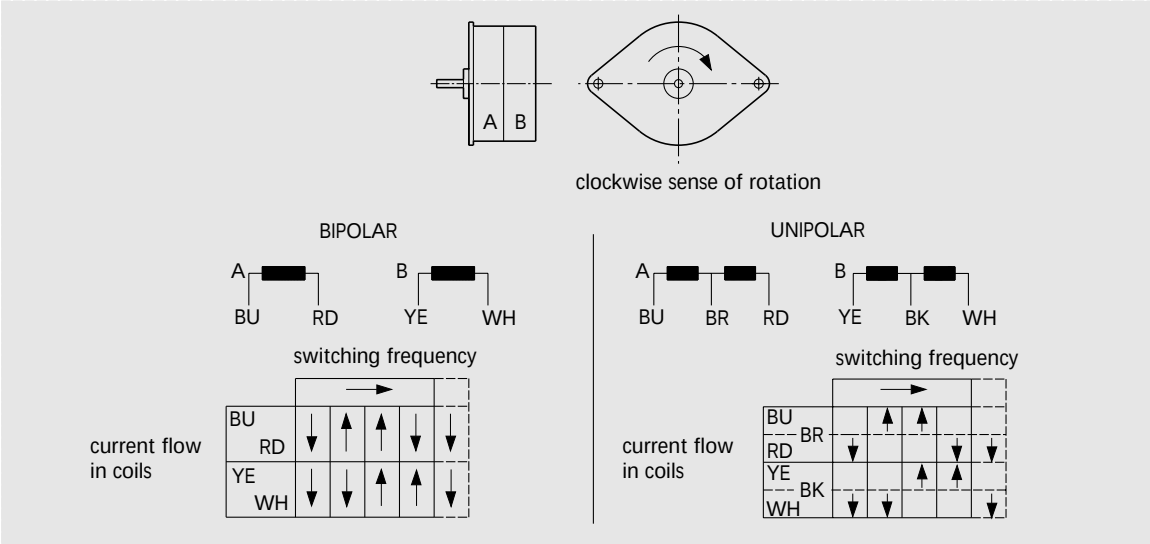
Gearbox combinations

You will find gearbox combinations from page 127.

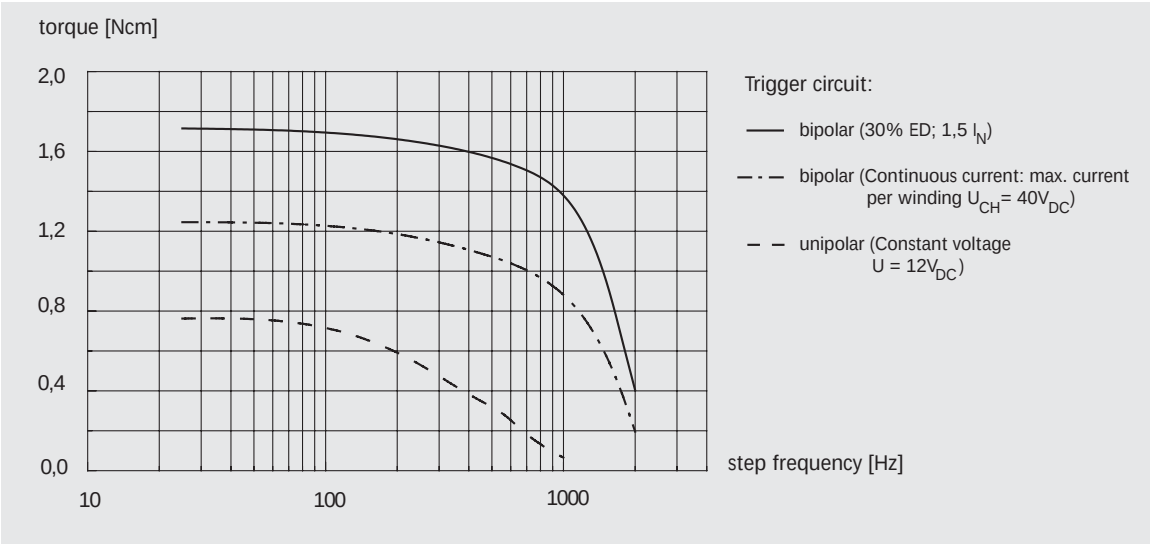
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2-phase stepping motors

RDM 36/6



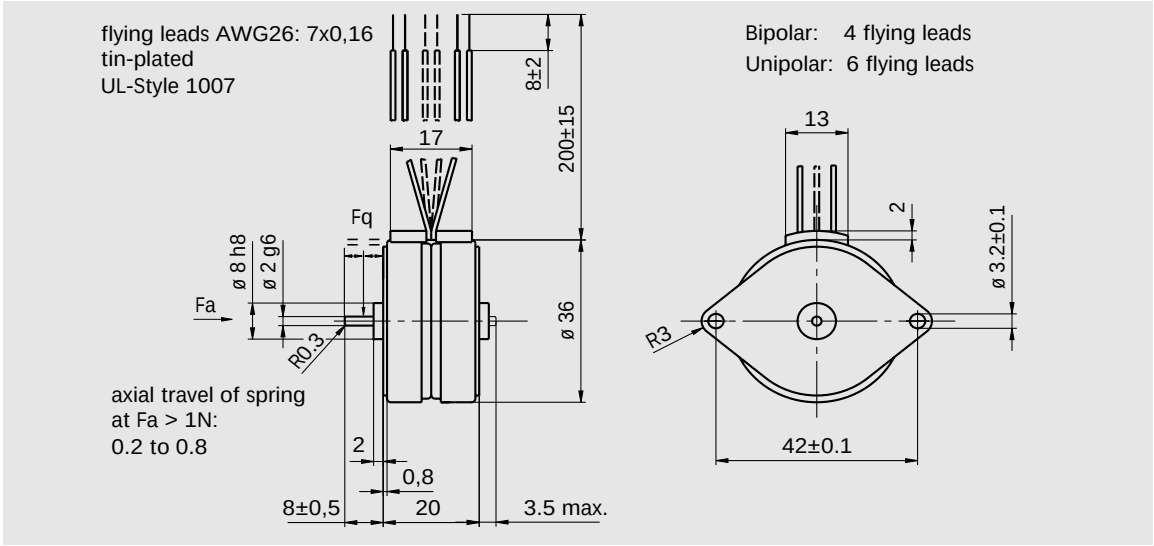
Connections RDM 36/6



Characteristic curve RDM 36/6

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2-phase stepping motors
RDM 36/8



Scale drawing RDM 36/8

Technical Data

	Control diagram	
	Bipolar	**Unipolar**
Steps / revolution	32	32
Step angle	11.25°	11.25°
Step angle tolerance	± 4%	± 4%
Max. torque	1.27 Ncm	0.7 Ncm
Holding torque (excited)	1.6 Ncm	1.1 Ncm
Rotor moment of inertia	2 gcm^2	2 gcm^2
Max. current per winding	0.23 A	0.115 A
Resistance per winding	26 Ω	105 Ω
Permitted shaft load	Axial stress F_a = 1 N, radial stress$_q$ = 3 N	
Weight approx.	0.075 kg	0.075 kg
Protection grade	IP 41	IP 41
Insulation class	E to DIN EN 60034-1	E
Insulation class	Dielectric strength	

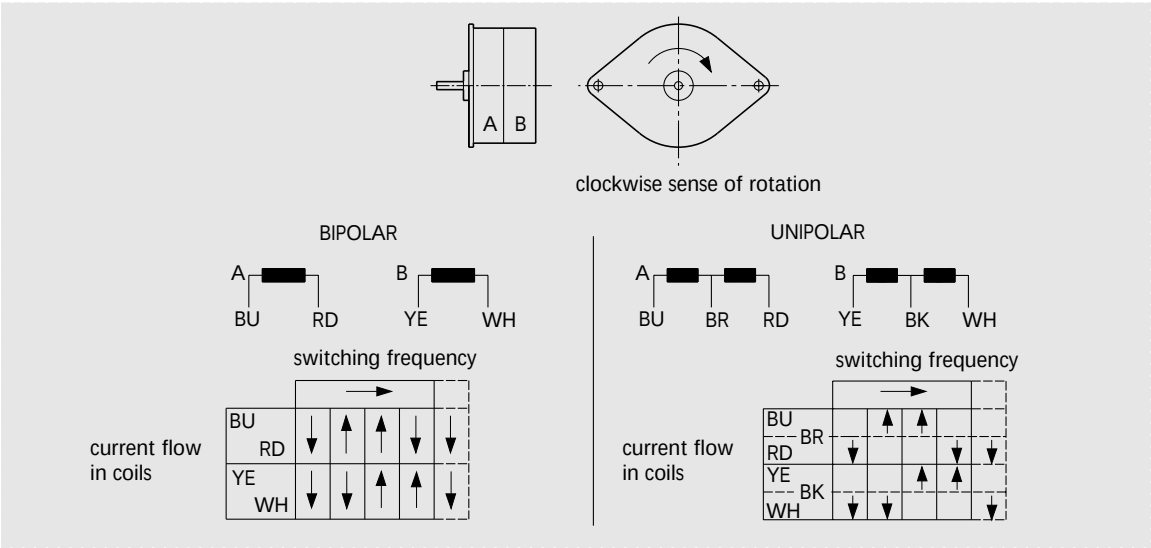
Gearbox combinations

You will find gearbox combinations from page 127.

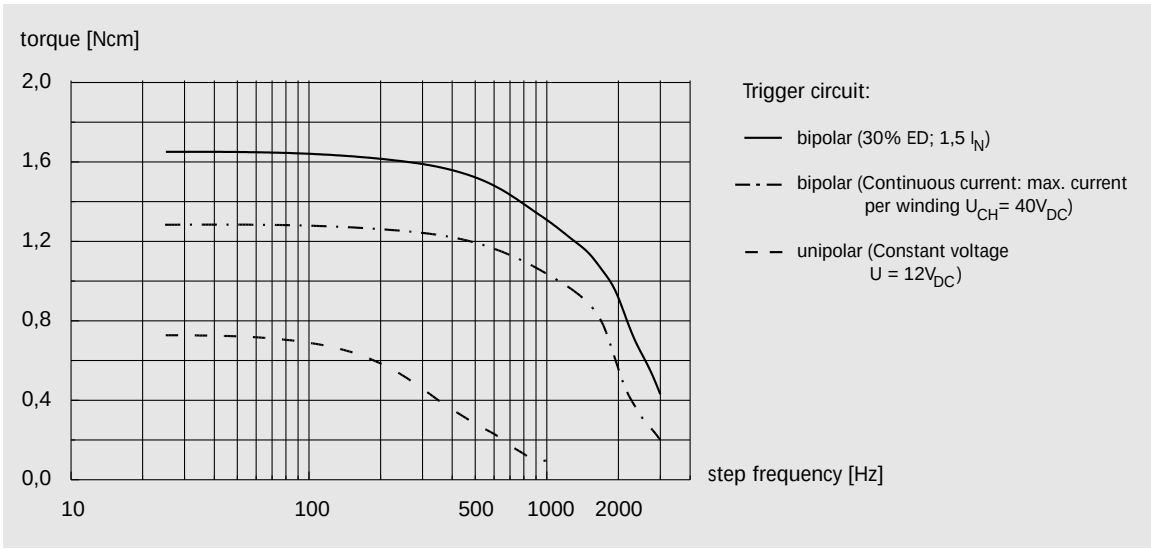
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2-phase stepping motors

RDM 36/8



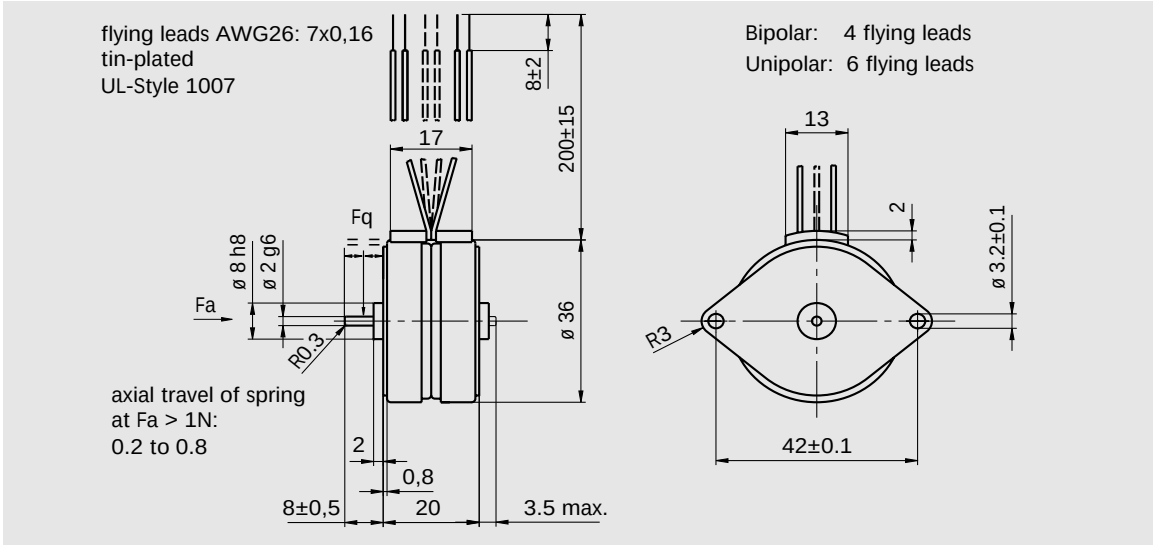
Connections RDM 36/8



Characteristic curve RDM 36/8

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2-phase stepping motors
RDM 36/10



Scale drawing RDM 36/10

Technical Data

	Control diagram	
	Bipolar	**Unipolar**
Steps / revolution	40	40
Step angle	9°	9°
Step angle tolerance	± 5%	± 6%
Max. torque	1.18 Ncm	0.73 Ncm
Holding torque (excited)	1.6 Ncm	1.0 Ncm
Rotor moment of inertia	2 gcm^2	2 gcm^2
Max. current per winding	0.23 A	0.115 A
Resistance per winding	26 Ω	105 Ω
Permitted shaft load	Axial stress F_a = 1 N, radial stress F_q = 3 N	
Weight approx.	0.075 kg	0.075 kg
Protection grade	IP 41 to DIN EN 60529	IP 41
Insulation class	E to DIN EN 60034-1	E
Dielectric strength	Momentary test: test voltage to DIN EN 60034-1	

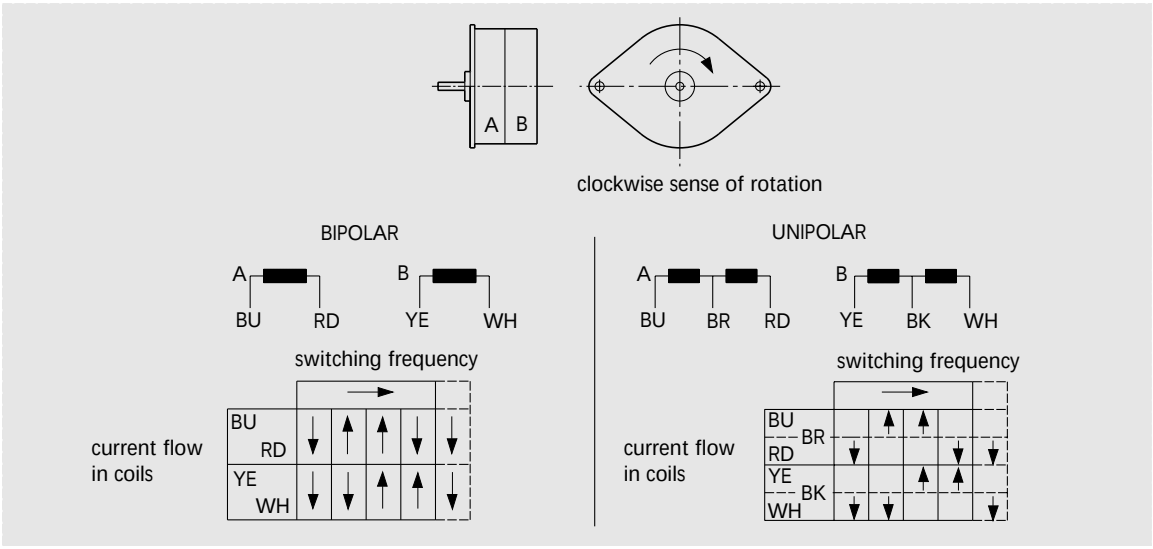
Gearbox combinations

You will find gearbox combinations from page 127.

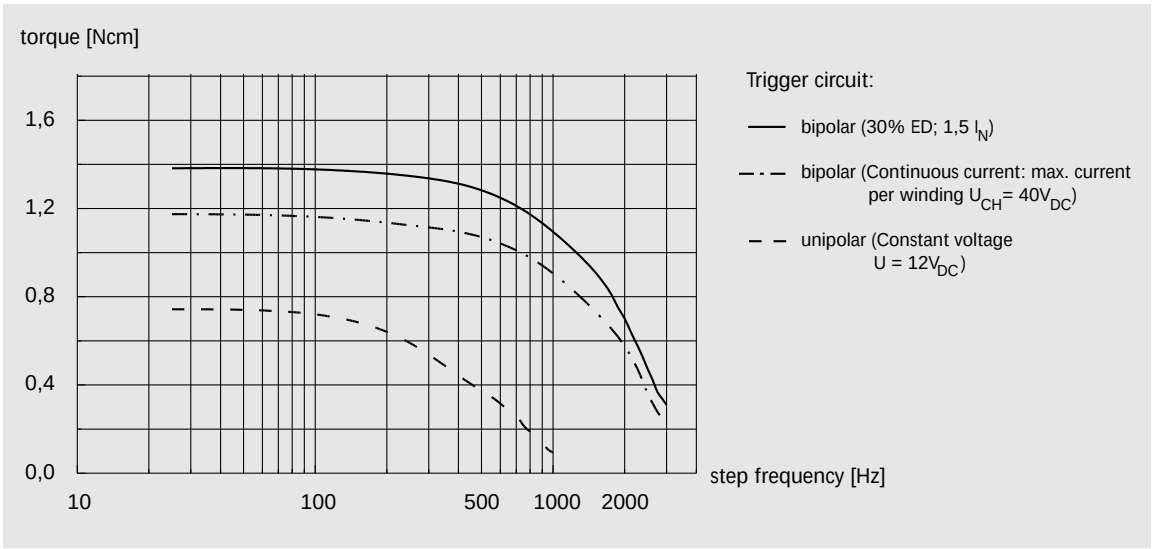
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2-phase stepping motors

RDM 36/10



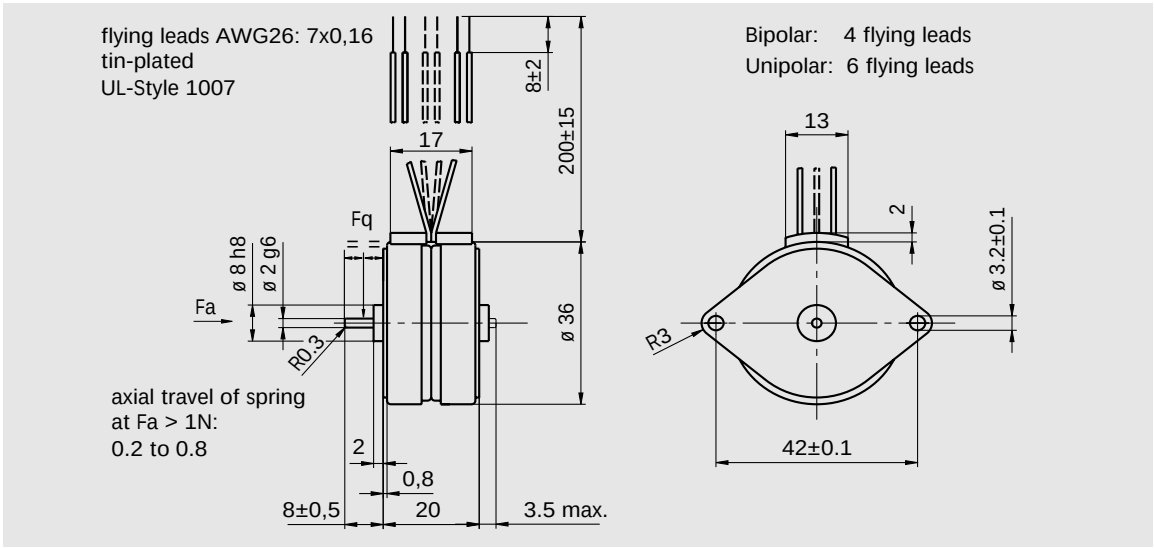
Connections RDM 36/10



Characteristic curve RDM 36/10

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2-phase stepping motors
RDM 36/12



Scale drawing RDM 36/12

Technical Data

	Control diagram	
	Bipolar	**Unipolar**
Steps / revolution	48	48
Step angle	7.5°	7.5°
Step angle tolerance	± 5%	± 6%
Max. torque	1.18 Ncm	0.6 Ncm
Holding torque (excited)	1.6 Ncm	0.9 Ncm
Rotor moment of inertia	2 gcm^2	2 gcm^2
Max. current per winding	0.23 A	0.115 A
Resistance per winding	26 Ω	105 Ω
Permitted shaft load	Axial stress F_a = 1 N, radial stress F_q = 3 N	
Weight approx.	0.075 kg	0.075 kg
Protection grade	IP 41 to DIN EN 60529	IP 41
Insulation class	E to DIN EN 60034-1	E
Dielectric strength	Momentary test: test voltage to DIN EN 60034-1	

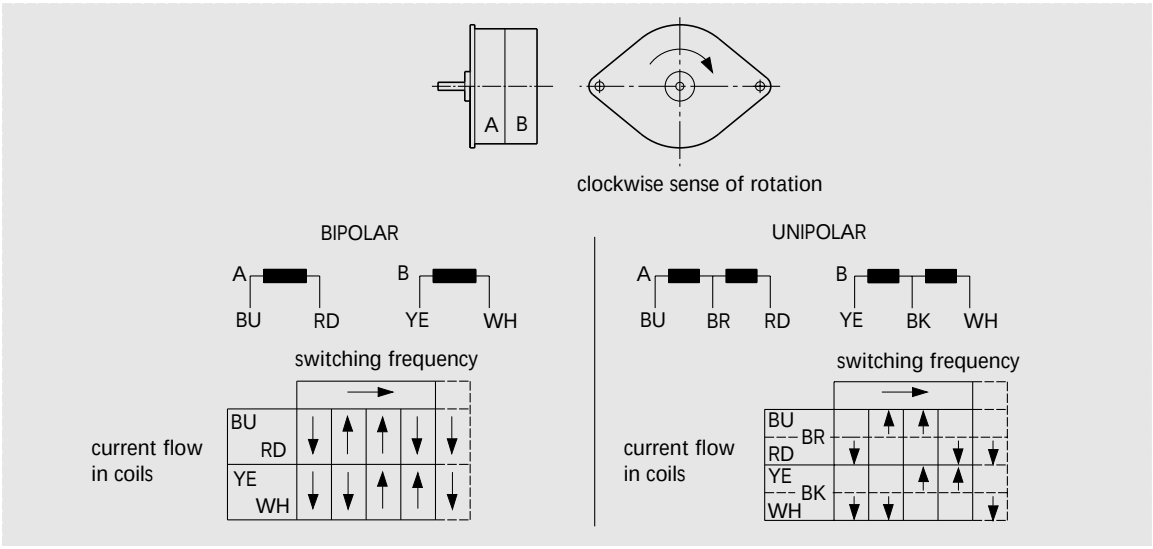
Gearbox combinations

You will find gearbox combinations from page 127.

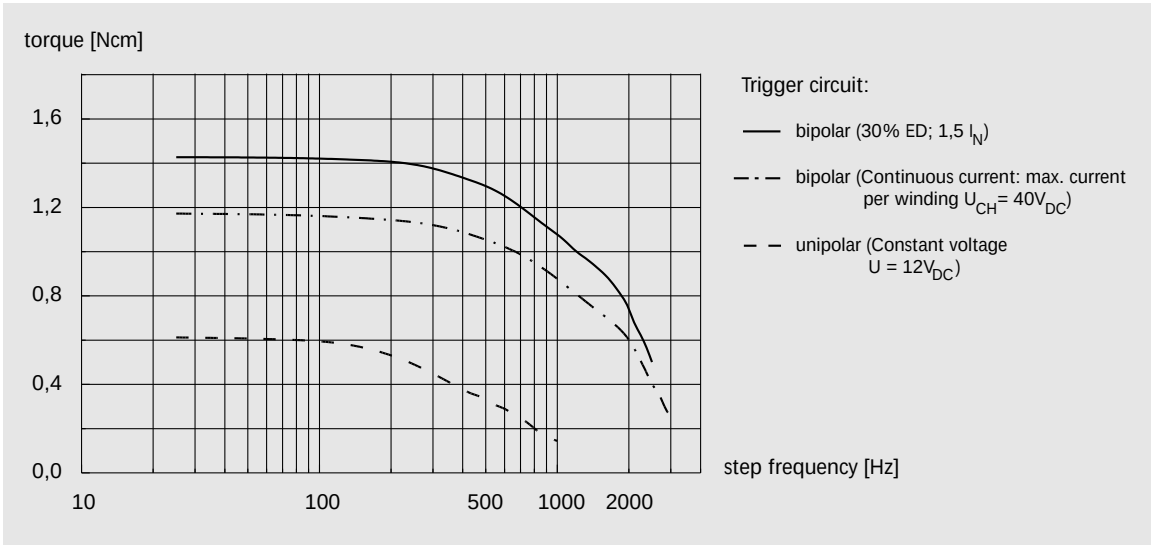
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2-phase stepping motors

RDM 36/12



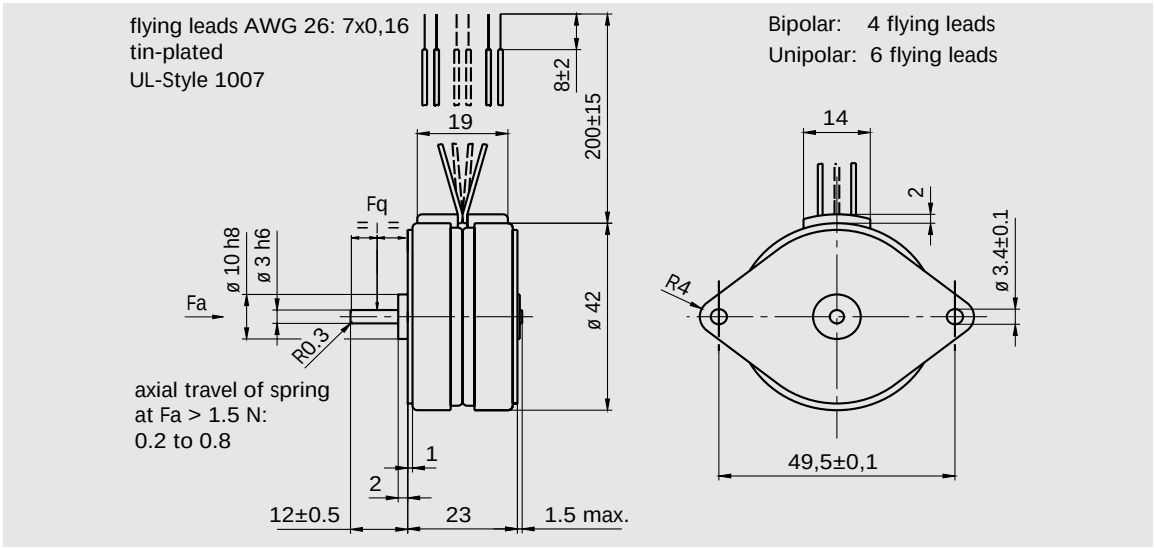
Connections RDM 36/12



Characteristic curve RDM 36/12

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2-phase stepping motors
RDM 42/12



Scale drawing RDM 42/12

Technical Data

	Control diagram	
	Bipolar	**Unipolar**
Steps / revolution	48	48
Step angle	7.5°	7.5°
Step angle tolerance	± 4 %	± 5 %
Max. torque	4.1 Ncm	3.1 Ncm
Holding torque (excited)	5.3 Ncm	3.9 Ncm
Rotor moment of inertia	7.2 gcm^2	7.2 gcm^2
Max. current per winding	0.335 A	0.165 A
Resistance per winding	18 Ω	72 Ω
Permitted shaft load	Axial stress F_a = 1.5 N, radial stress F_q = 5 N	
Weight approx.	0.143 kg	0.143 kg
Protection grade	IP 41 to DIN EN 60529	IP 41
Insulation class	E to DIN EN 60034-1	E
Dielectric strength	Momentary test: test voltage to DIN EN 60034-1	

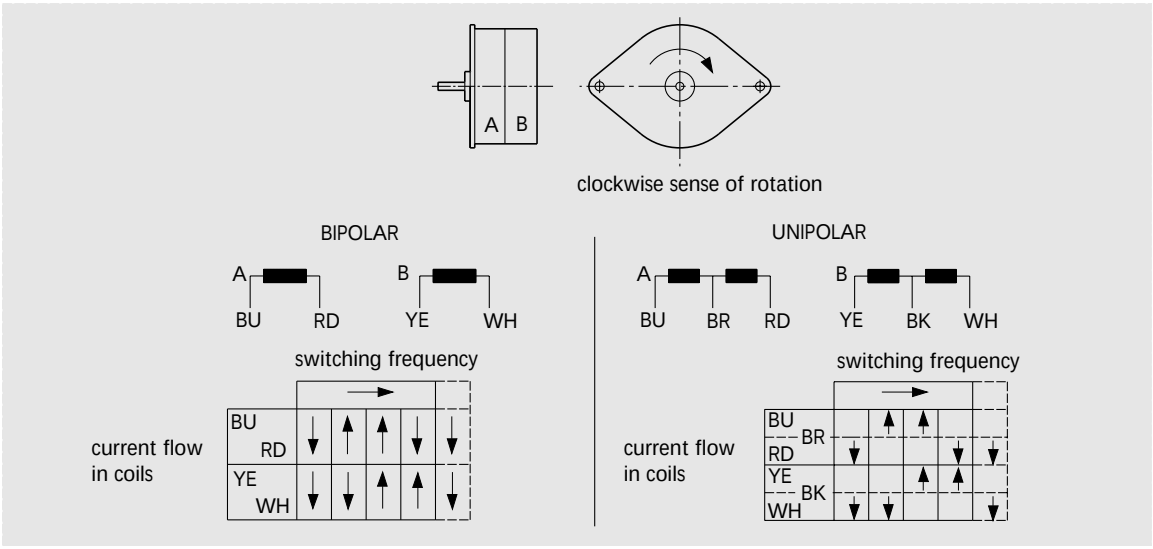
Gearbox combinations

You will find gearbox combinations from page 127.

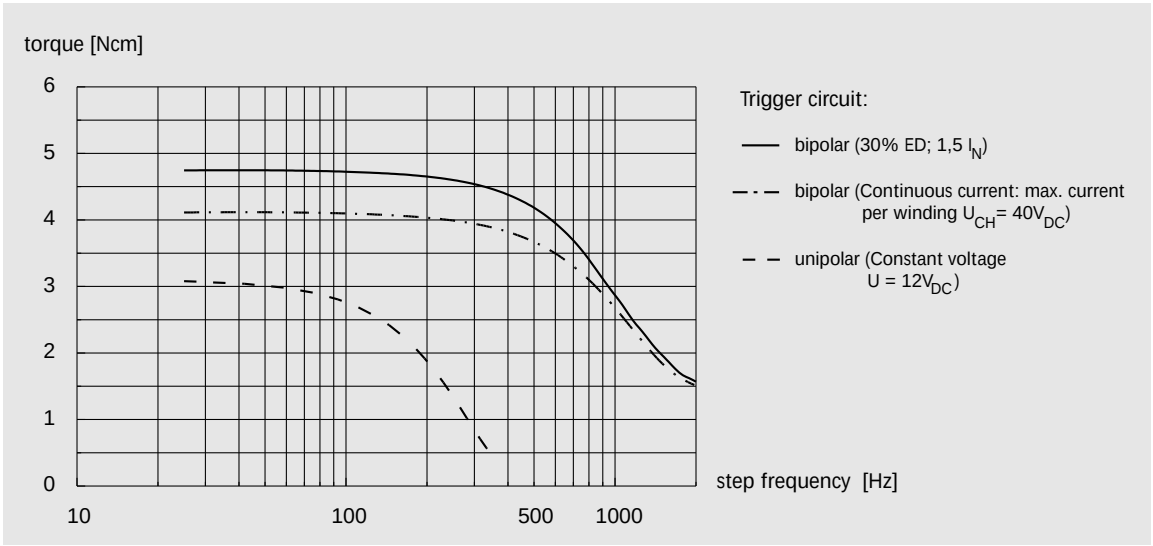
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2-phase stepping motors

RDM 42/12



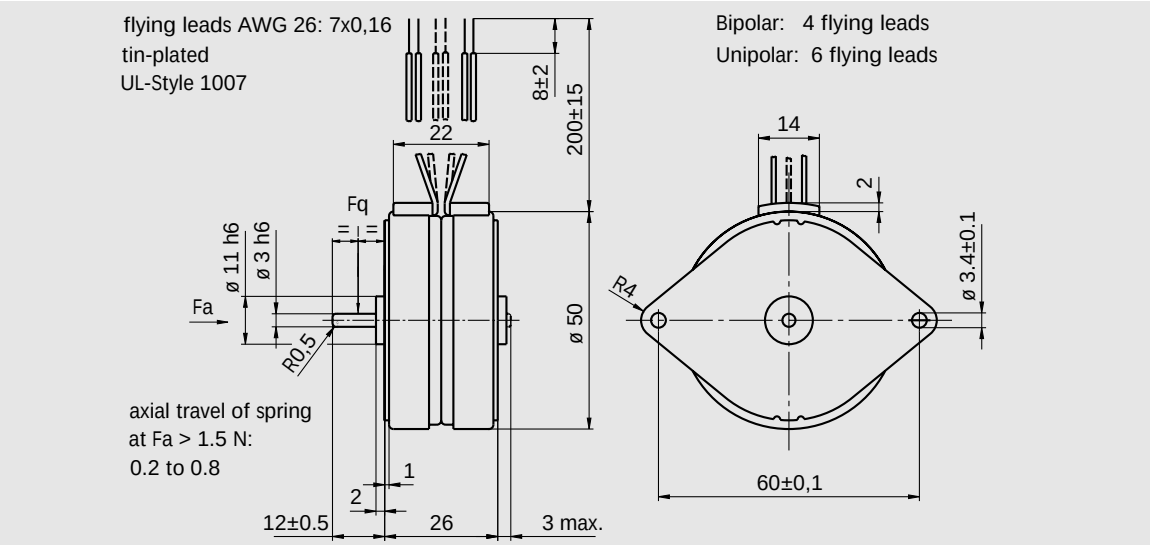
Connections RDM 42/12



Characteristic curve RDM 42/12

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2-phase stepping motors
RDM 51/6



Scale drawing RDM 51/6

Technical Data

	Control diagram	
	Bipolar	**Unipolar**
Steps / revolution	24	24
Step angle	15°	15°
Step angle tolerance	± 3%	± 4%
Max. torque	5.5 Ncm	3.1 Ncm
Holding torque (excited)	7.2 Ncm	5 Ncm
Rotor moment of inertia	17 gcm^2	17 gcm^2
Max. current per winding	0.4 A	0.2 A
Resistance per winding	15 Ω	60 Ω
Permitted shaft load	Axial stress F_a = 2 N, radial stress F_q = 5 N	
Weight approx.	0.2 kg	0.2 kg
Protection grade	IP 41 to DIN EN 60529	IP 41
Insulation class	E to DIN EN 60034-1	E
Dielectric strength	Momentary test: test voltage to DIN EN 60034-1	

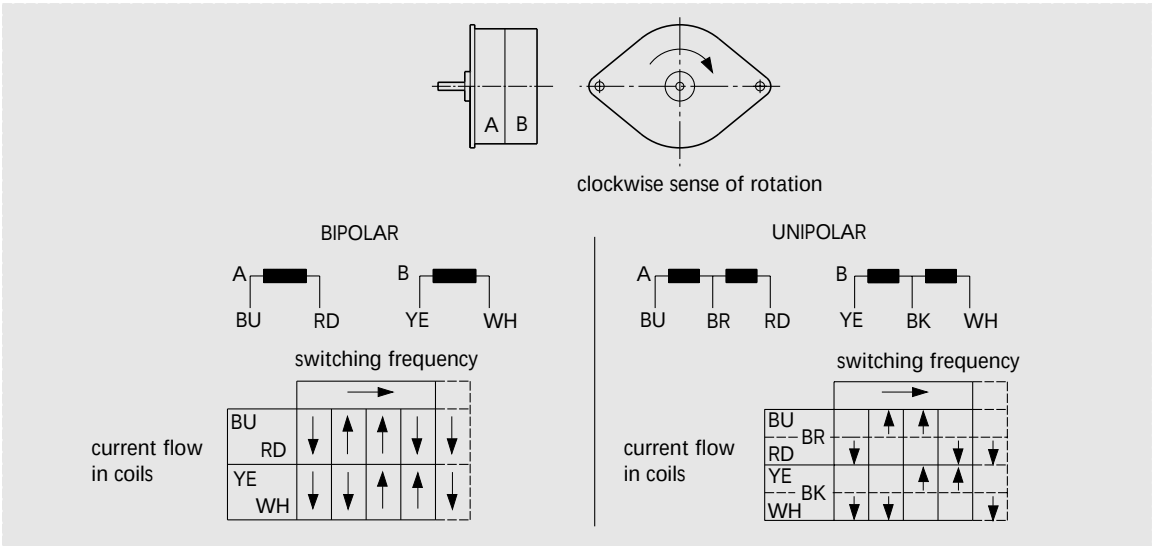
Gearbox combinations

You will find gearbox combinations from page 127.

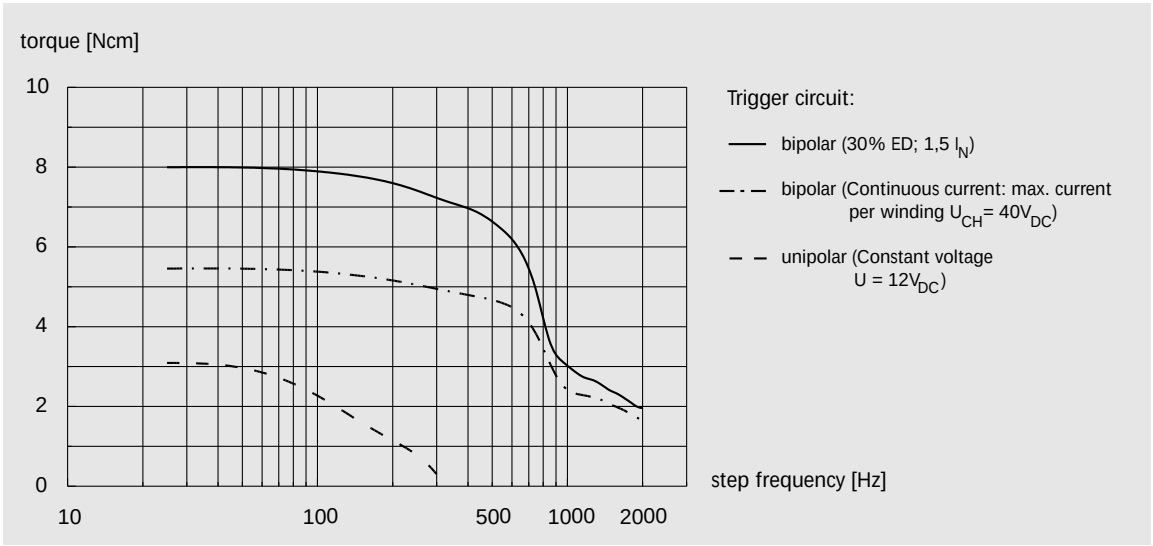
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2-phase stepping motors

RDM 51/6



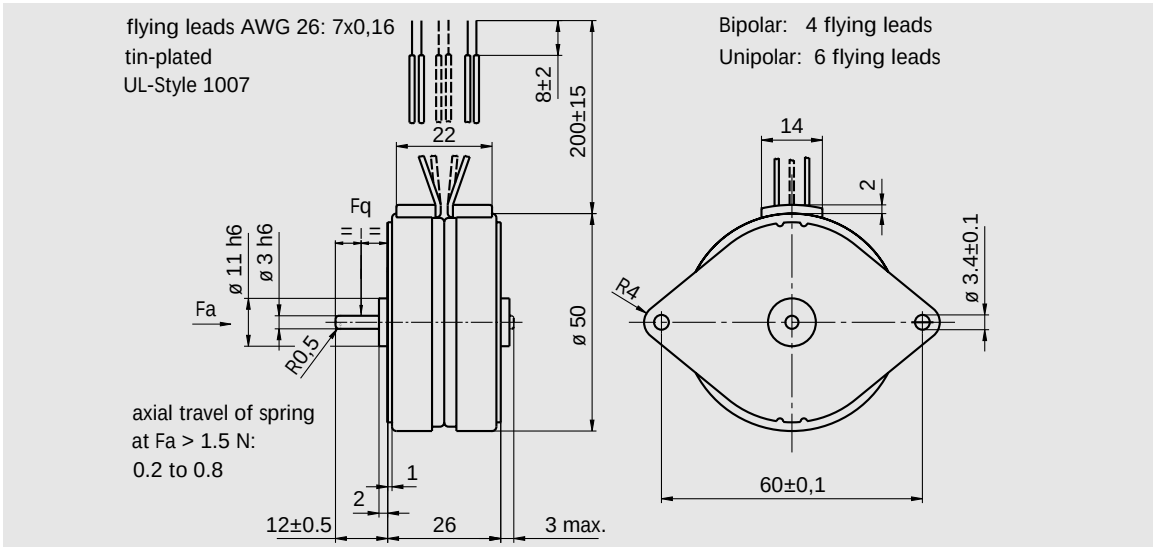
Connections RDM 51/6



Characteristic curve RDM 51/6

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2-phase stepping motors
RDM 51/8



Scale drawing RDM 51/8

Technical Data

	Control diagram	
	Bipolar	**Unipolar**
Steps / revolution	32	32
Step angle	11.25°	11.25°
Step angle tolerance	± 3%	± 4%
Max. torque	6.8 Ncm	4.1 Ncm
Holding torque (excited)	8.2 Ncm	5.7 Ncm
Rotor moment of inertia	17 gcm^2	17 gcm^2
Max. current per winding	0.4 A	0.2 A
Resistance per winding	15 Ω	60 Ω
Permitted shaft load	Axial stress F_a = 2 N, radial stress F_q = 5 N	
Weight approx.	0.2 kg	0.2 kg
Protection grade	IP 41 to DIN EN 60529	IP 41
Insulation class	E to DIN EN 60034-1	E
Dielectric strength	Momentary test: test voltage to DIN EN 60034-1	

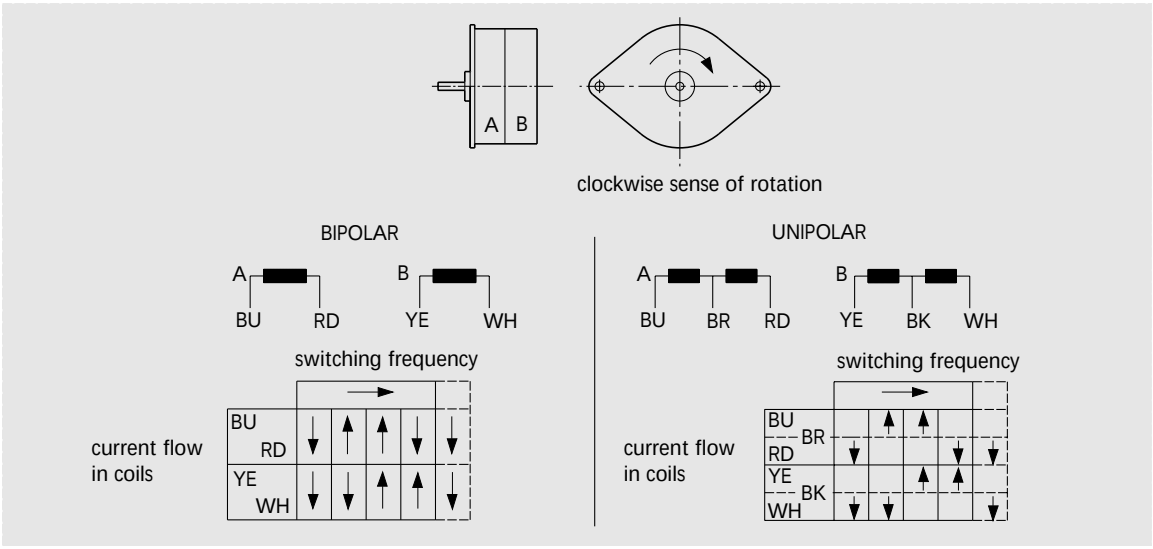
Gearbox combinations

You will find gearbox combinations from page 127.

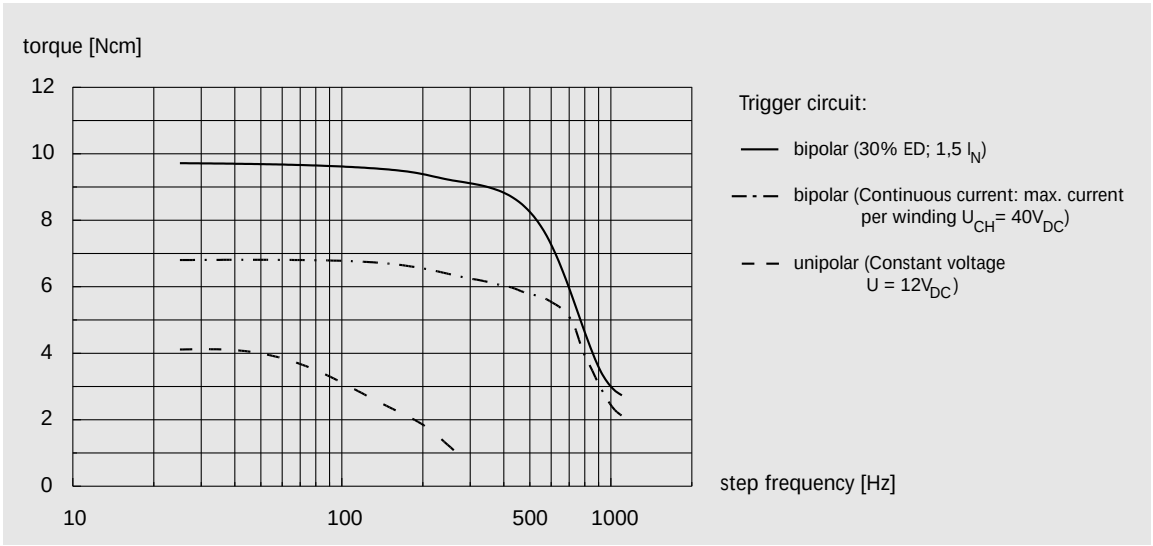
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2-phase stepping motors

RDM 51/8



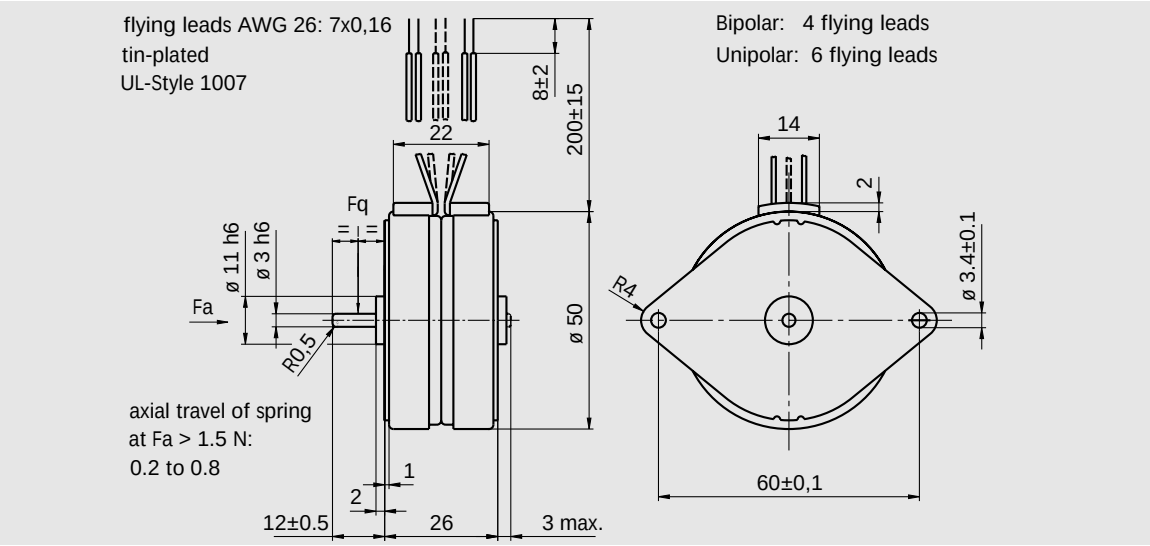
Connections RDM 51/8



Characteristic curve RDM 51/8

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2-phase stepping motors
RDM 51/12



Scale drawing RDM 51/12

Technical Data

	Control diagram	
	Bipolar	**Unipolar**
Steps / revolution	48	48
Step angle	7.5°	7.5°
Step angle tolerance	± 3%	± 4%
Max. torque	6.9 Ncm	4.9 Ncm
Holding torque (excited)	8.8 Ncm	6.2 Ncm
Rotor moment of inertia	17 gcm^2	17 gcm^2
Max. current per winding	0.4 A	0.2 A
Resistance per winding	15 Ω	60 Ω
Permitted shaft load	Axial stress F_a = 2 N, radial stress F_q = 5 N	
Weight approx.	0.2 kg	0.2 kg
Protection grade	IP 41 to DIN EN 60529	IP 41
Insulation class	E to DIN EN 60034-1	E
Dielectric strength	Momentary test: test voltage to DIN EN 60034-1	

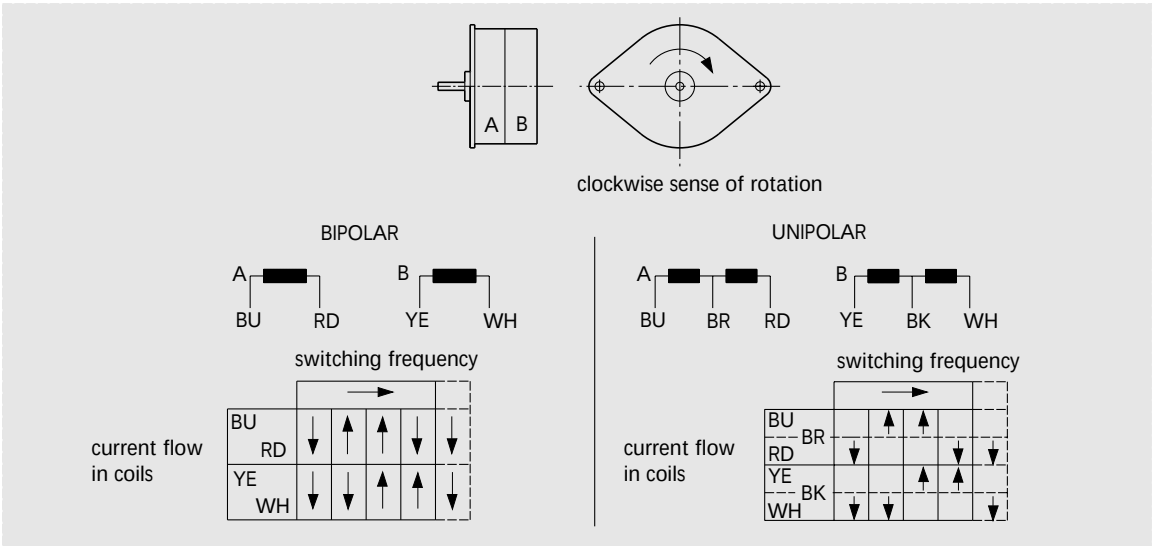
Gearbox combinations

You will find gearbox combinations from page 127.

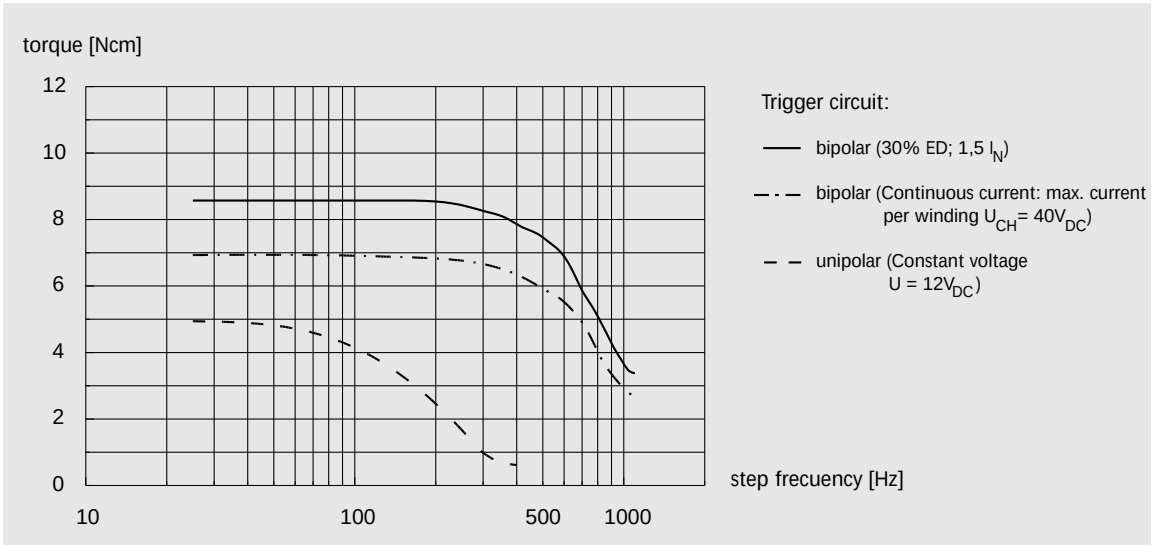
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2-phase stepping motors

RDM 51/12



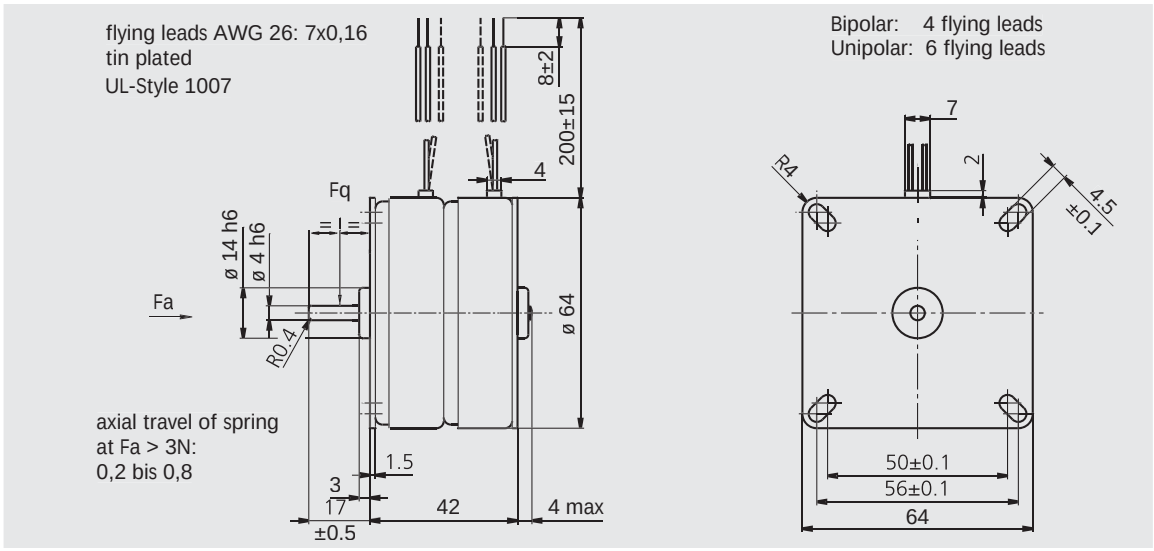
Connections RDM 51/12



Characteristic curve RDM 51/12

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2-phase stepping motors
RDM 63/10



Scale drawing RDM 63/10

Technical Data

	Control diagram	
	Bipolar	**Unipolar**
Steps / revolution	40	40
Step angle	9°	9°
Step angle tolerance	± 3%	± 4%
Max. torque	22.5 Ncm	12.5 Ncm
Holding torque (excited)	29 Ncm	20 Ncm
Rotor moment of inertia	150 gcm^2	150 gcm^2
Max. current per winding	0.65 A	0.31 A
Resistance per winding	9.6 Ω	41 Ω
Permitted shaft load	Axial stress F_a = 3 N, radial stress F_q = 10 N	
Weight approx.	0.46 kg	0.46 kg
Protection grade	IP 41 to DIN EN 60529	IP 41
Insulation class	E to DIN EN 60034-1	E
Dielectric strength	Momentary test: test voltage to DIN EN 60034-1	

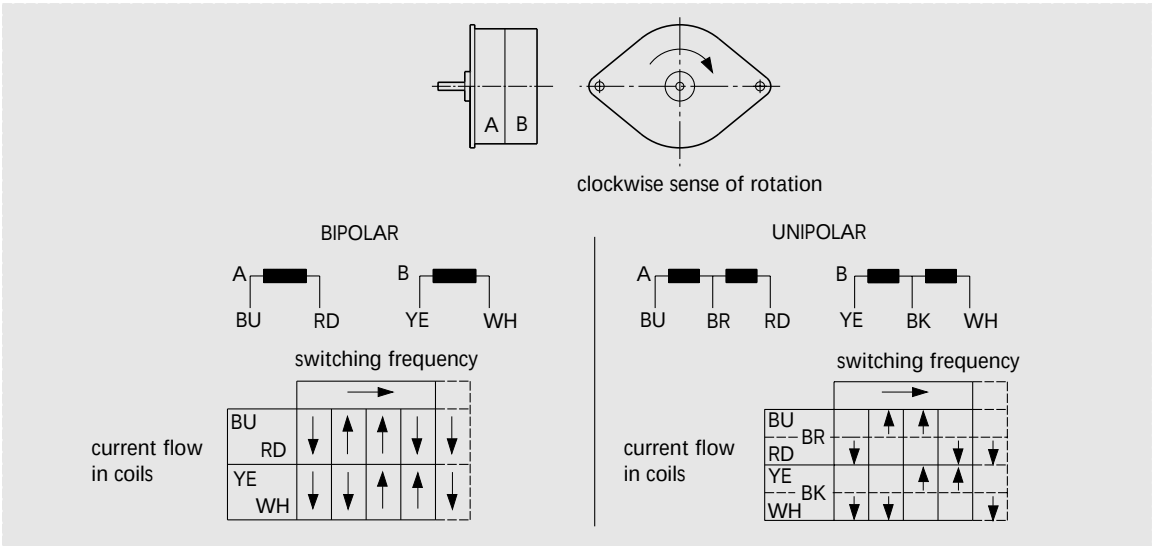
Gearbox combinations

You will find gearbox combinations from page 127.

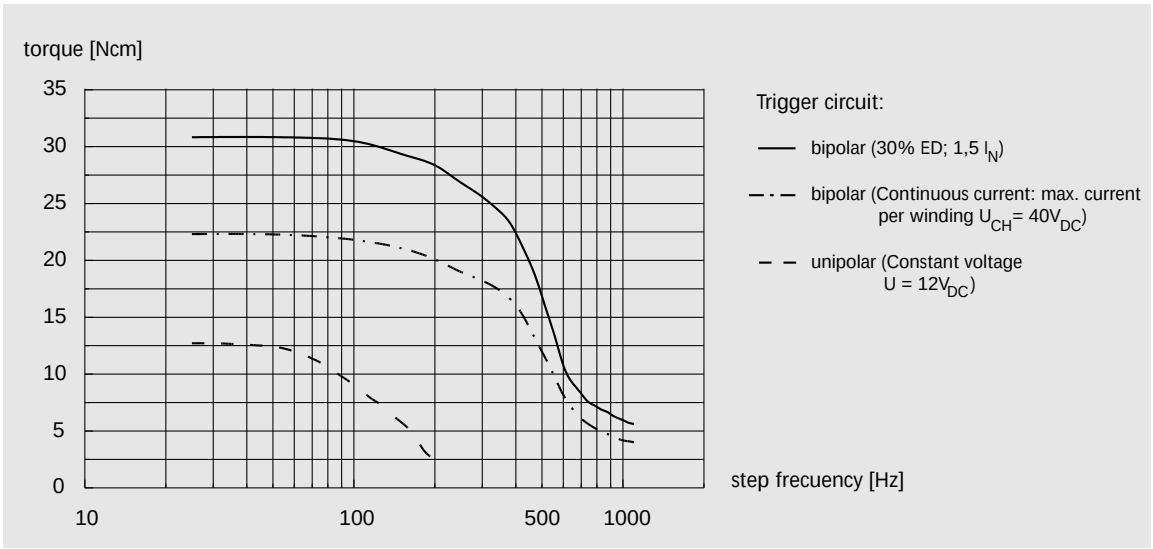
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2-phase stepping motors

RDM 63/10



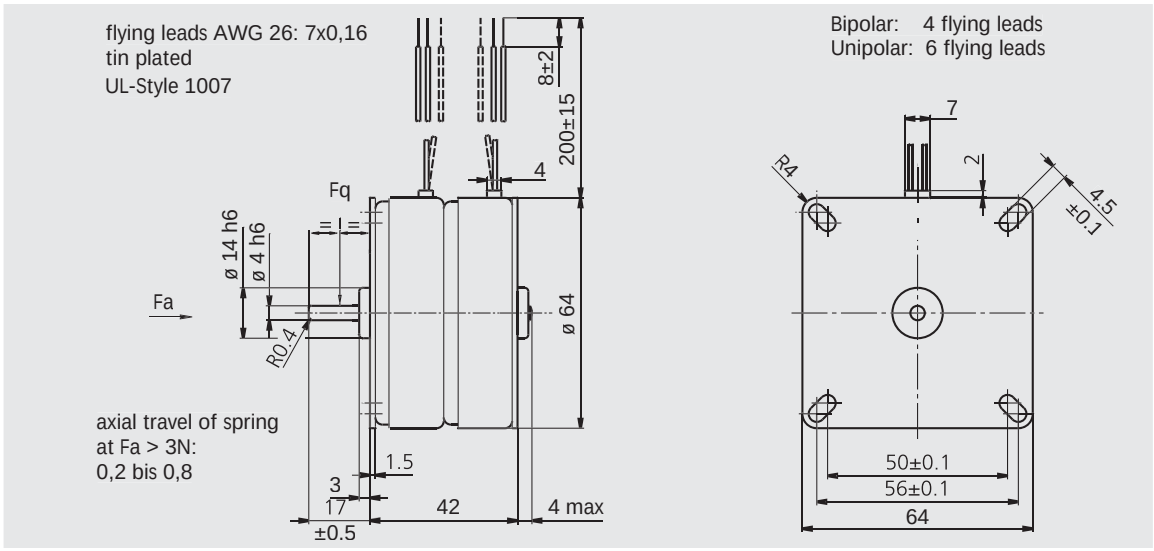
Connections RDM 63/10



Characteristic curve RDM 63/10

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2-phase stepping motors
RDM 63/12



Scale drawing RDM 63/12

Technical Data

	Control diagram	
	Bipolar	**Unipolar**
Steps / revolution	48	48
Step angle	7.5°	7.5°
Step angle tolerance	± 3%	± 4%
Max. torque	25.5 Ncm	15 Ncm
Holding torque (excited)	32 Ncm	22 Ncm
Rotor moment of inertia	150 gcm^2	150 gcm^2
Max. current per winding	0.65 A	0.31 A
Resistance per winding	9.6 Ω	41 Ω
Permitted shaft load	Axial stress F_a = 3 N, radial stress F_q = 10 N	
Weight approx.	0.47 kg	0.47 kg
Protection grade	IP 41 to DIN EN 60529	IP 41
Insulation class	E to DIN EN 60034-1	E
Dielectric strength	Momentary test: test voltage to DIN EN 60034-1	

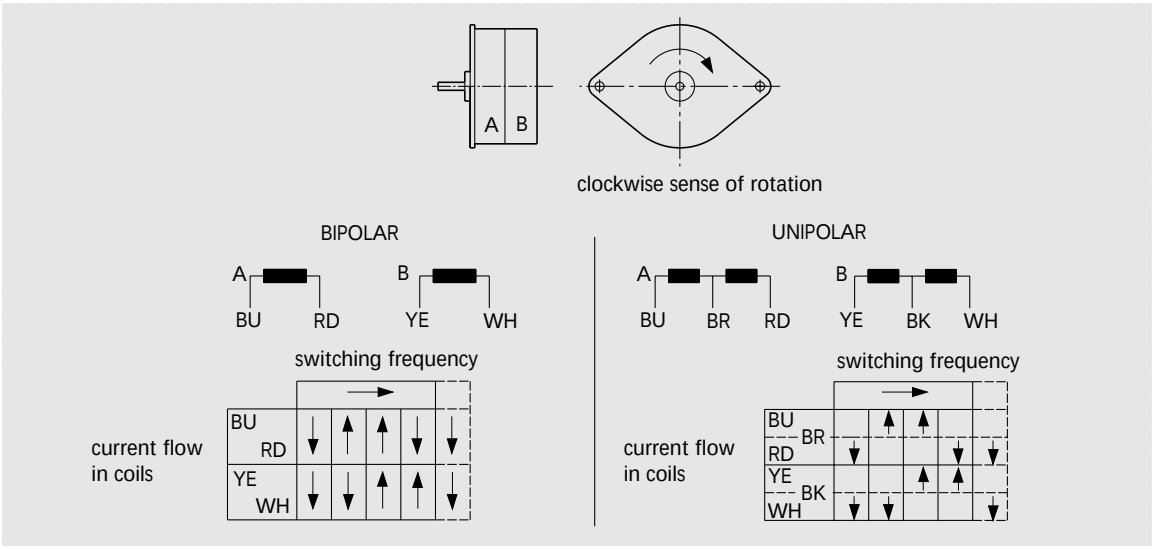
Gearbox combinations

You will find gearbox combinations from page 127.

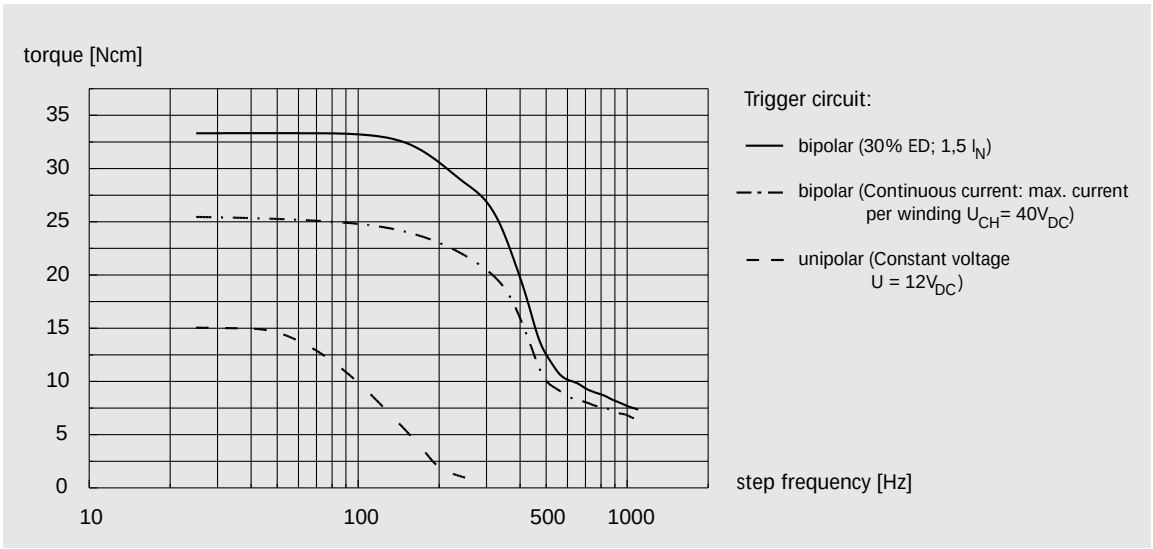
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2-phase stepping motors

RDM 63/12



Connections RDM 63/12



Characteristic curve RDM 63/12

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