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.

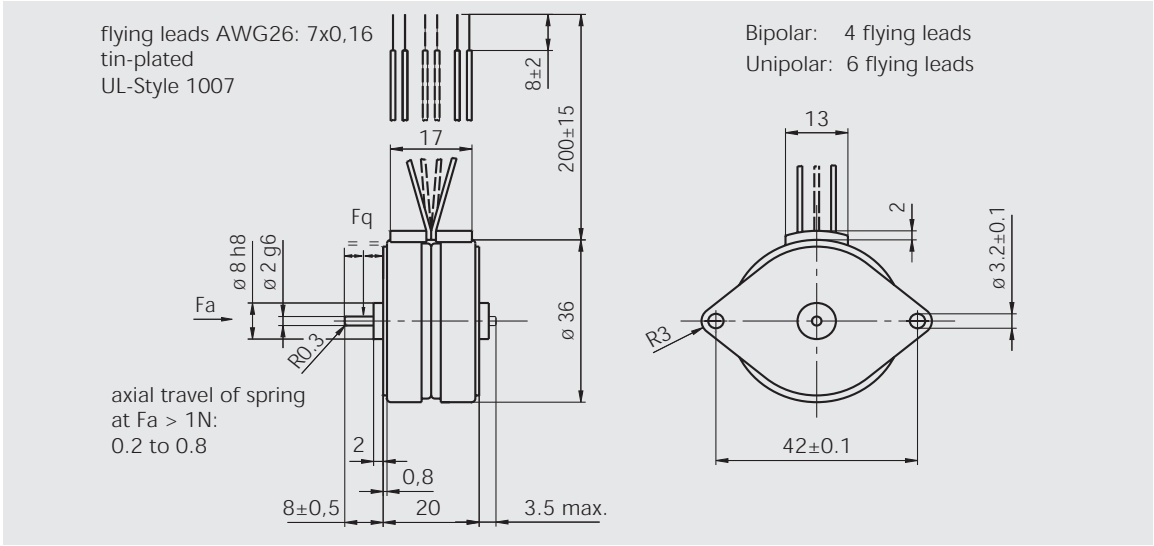
Switching characteristics of the bipolar design

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.

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.