UCC

UCC1/7

Dimensions (mm)	∅ 28 x 31
Travel (mm)	10/13
Voltage (V) **	12–230
Speed (mm/s)	
50 Hz	4.16
60 Hz	5
Max. Force (N)*	35

* Depends on winding, frequency and lifetime required. Values for connector versions (C, D) / lead wire versions (N) up to 20 % lower. Drive against end stops only permissible after clarification of operating conditions and approval by Saia motors. Radial forces on the shaft will reduce life time and performance.

** regard circuit diagram and connector type

Standard Data

Climatic class	wide-spread according to DIN IEC 60721-2-1 : 1992
Ambient temperature operation	°C -15 ... +60
Ambient temperature storage	°C -20 ... +100
Thermal resistance at f=0 R_{therm}	29 K/W
Thermal class	130 (B) according to DIN EN 60085 : 2004
Winding coil temperature increase	K 60
Approval	standard
Mounting	any position
Electrical connection	connector type C, D, N
Protection	IP40 according to DIN EN 60529 : 2000
Weight	67 g
Rotor stalling	motor can be stopped when voltage is applied, without being overheated
Bearings	ball bearing

Order Reference

Type	Synchronous Motor				UCC	13	N	B4	D	1B
Configuration	13	standard magnet	73	stronger magnet						
Approval	N									
Voltage/frequency		see next pages								
Connection	C D	see pages 151, „Connection Types“								
Shaft	1B	Travel 13 mm ± 0.7 mm (other standard shafts see under dimensions)								

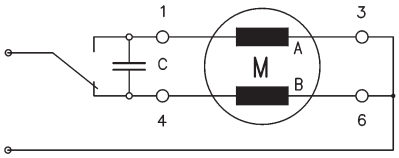
Technical Data

Rated frequency

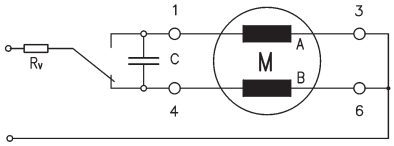
	Hz	50		
Axial speed	mm/s	4.16		
Tolerance of voltage		standard power supply system +10% / –10%		
Linear travel max.	mm	10/13		
Axial play at ± 20 N force	mm	< 0.25		
Winding temperature T_{max}		130		
Rated voltage U_N	V	12	24	110 [1]
Duty cycle	%	100	100	100
Resistance R_{20}	Ω	53	210	5000
Capacitor C_{50}	µF/V ±10%	18/20	4.7/40	0.22/200
Winding code		B1	B4	C8

Circuit diagram

Parallel circuit 12 V, 24 V, 48 V

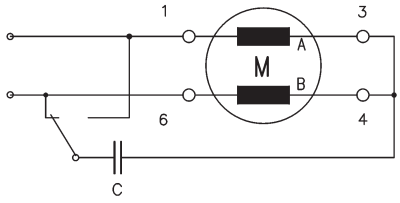


Parallel circuit 230 V (only for connector N)
with 110 V motor and resistor R_V

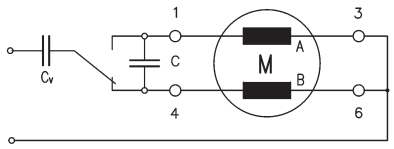


R_V = 5.6 kΩ, 3 W

Series circuit 110 V (only for connector N)



Parallel circuit 230 V (only for connector N)
with 110 V motor and capacitor C_V



C_V = 0.33 µF, 250 VAC

switch to

1 Pull (in)

4 Push (out)

6 Push (out)
(for series circuit)

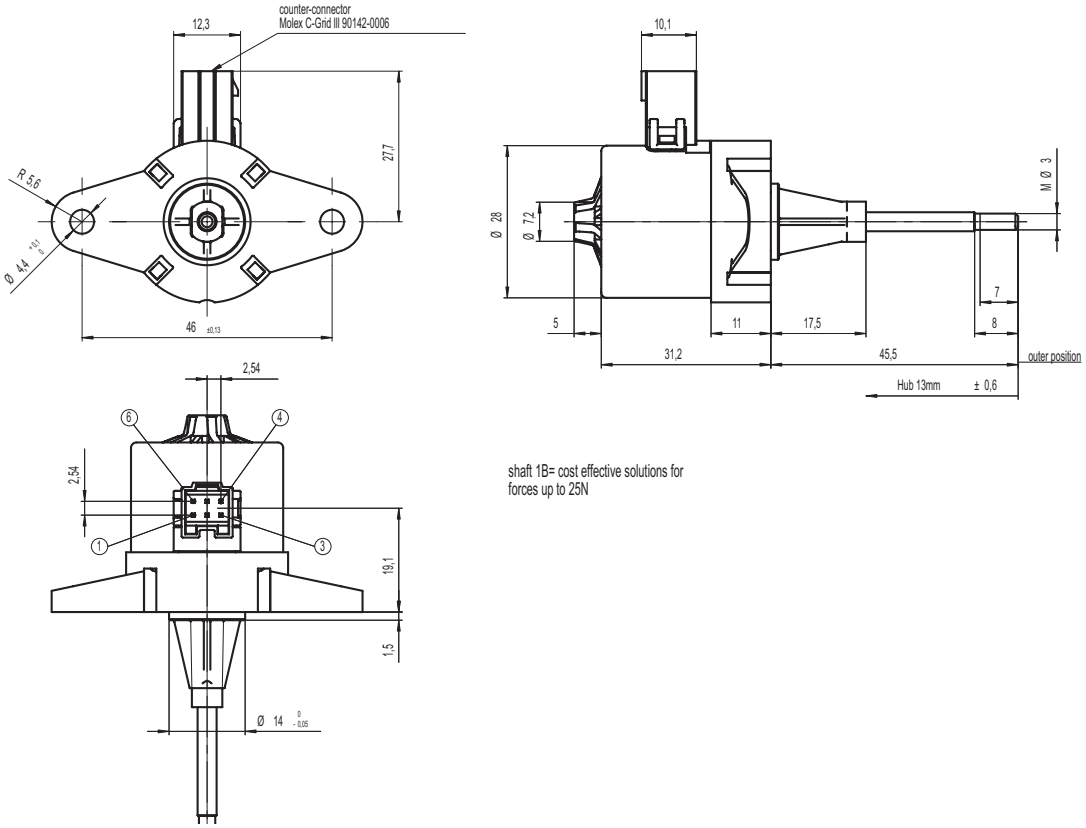
[1] 110 V version available with 150 mm lead wires AWG26 only

Standard versions:

Shaft type (see dimensions)	Order code
1B	UCC13NC8N1BZ4
1E	UCC13NC8N1EZ4
1S	UCC13NC8N1SZ4
1R	UCC13NC8N1RZ4
1Q	UCC13NC8N1QZ4

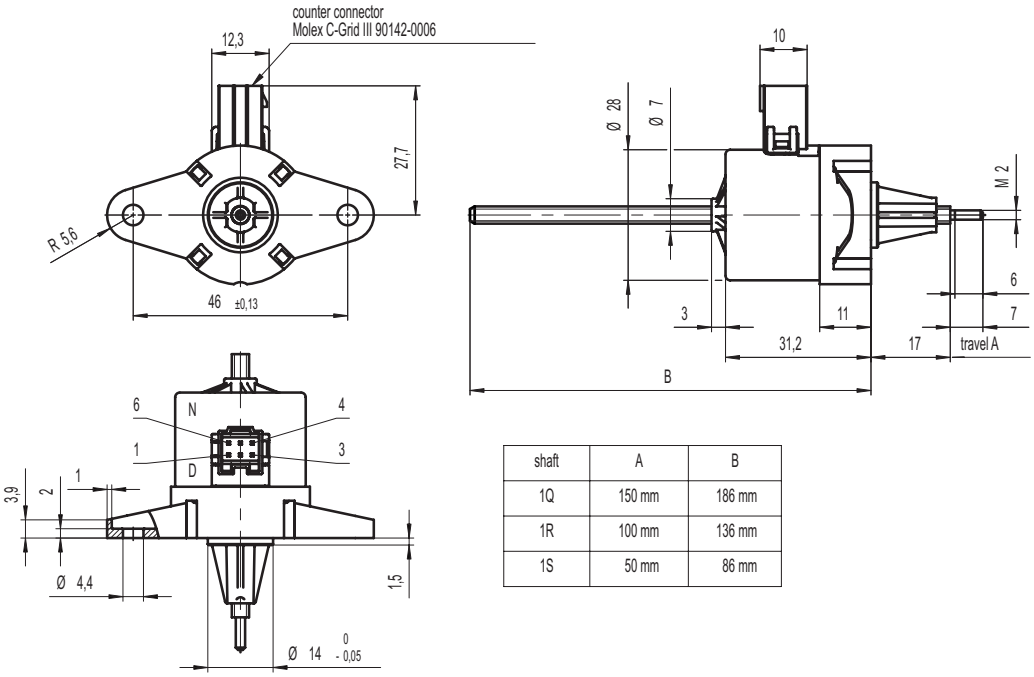
Dimensions

Version with Connector D, with 13 mm travel, shaft 1B and 1E



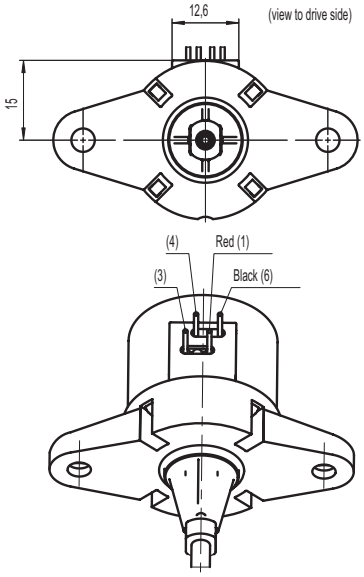
shaft 1B= cost effective solutions for forces up to 25N

Version with Connector D, with 50..150 mm travel, shaft 1R, 1S, 1Q



shaft	A	B
1Q	150 mm	186 mm
1R	100 mm	136 mm
1S	50 mm	86 mm

Dimensions 110 V version with lead wires



different lead colours for 110V (230V)
for rotary synchronous motors in serials circuit

Force

		connector version		lead wire version	
		50 Hz	60 Hz	50 Hz	60 Hz
UCC1	100 %	38 N	40 N	30 N	33 N
	30%	46 N	48 N	37 N	39 N
UCC7	100 %	45 N	47 N	37 N	40 N
	30%	55 N	56 N	46 N	48 N