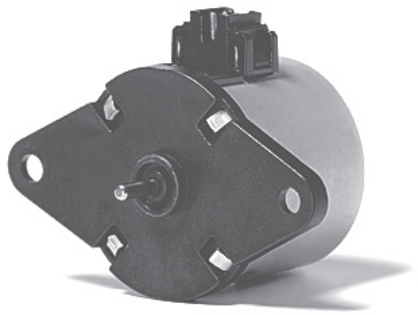
# UCM

## UCM1/7



| | |
|---|---|
| Dimensions (mm) | ∅ 28 x 24 |
| Voltage (V) * | 12–230 |
| Speed (rpm) 50 Hz | 250 |
| Pole number | 24 |
| Running torque (cNm) 50 Hz | 1.15–1.7 |
| 60 Hz | 1.15–1.7 |
| Power output (W) 50 Hz | 0.3–0.44 |
| 60 Hz | 0.36–0.53 |
| Gear combination | D, M, B, F |

* regard circuit diagram and connector type

Note: Running torque = Pull-out torque (starting motor at no load, then torque increase)
Running torque and Power output are minimum values, at rated voltage and motor temperature 23°C

## Standard Data

| | |
|---|---|
| Climatic class | „wide-spread“ according to DIN IEC 60721-2-1 : 2015 |
| 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 : 2008 |
| Approval | standard |
| Mounting | any position |
| Electrical connection | connector type D or N |
| Protection | IP30 according to DIN EN 60529 : 2014 |
| Weight | 54 g |
| Rotor stalling | motor can be stopped when voltage is applied, without being overheated |
| Bearings | Sintered bronze, self-lubricating |

## Order Reference

| Type | Synchronous Motor | | | UCM | 1 | 0 | N | B4 | R | D |
|---|---|---|---|---|---|---|---|---|---|---|
| Configuration | 1 | standard magnet | | | | | | | | |
| | 7 | stronger magnet | | | | | | | | |
| Rotor shaft, mounting | 3 | centring 8 mm, shaft 2.0 mm, screw plate | E | centring 10 mm, shaft 2.0 mm, screw plate | | | | | | |
| | 4 | centring 8 mm, shaft 1.5 mm, screw plate | K | centring 10 mm, shaft 1.5 mm, screw plate | | | | | | |
| | 0 | centring 8 mm, shaft 2.0 mm, clip | A | centring 10 mm, shaft 2.0 mm, clip | | | | | | |
| | 1 | centring 8 mm, shaft 1.5 mm, clip | C | centring 10 mm, shaft 1.5 mm, clip | | | | | | |
| Approval | N | Approval Standard | | | | | | | | |
| Voltage/Frequency | | see next pages | | | | | | | | |
| Direction | R | reversible | | | | | | | | |
| Connection | D | see next pages “Connection Types” and page 145 “Connection Types” for B | | | | | | | | |
| | N | | | | | | | | | |

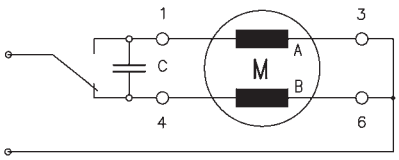
*All specifications are representative only and maybe subject to variation. For confirmation of values, please contact Johnson Electric.*
*Please also read “Saia Motors Important Notes” on catalog or at www.johnsonelectric.com/SaiaMotorsNotes*

## Technical Data

| | | | UCM1 | UCM1 | UCM7 | UCM7 |
|---|---|---|---|---|---|---|
| Rated frequency | | Hz | 50 | 60 | 50 | 60 |
| | Speed n | rpm | 250 | 300 | 250 | 300 |
| | Detent torque $M_S$ | cNm | 0.18 | 0.18 | 0.36 | 0.36 |
| | Power consumption | VA | 2.2 | 2.2 | 2.2 | 2.2 |
| | Rotor inertia $J_R$ | gcm2 | 2.2 | 2.2 | 2.4 | 2.4 |
| | Tolerance of voltage | | standard power supply system +10%/–10% | | | |
| | Duty cycle | | 100% | | | |
| | Winding temperature $T_{max}$ | °C | 130 | | | |
| | Direction of rotation | | reversible | | | |
| | **Specific Technical Data Lead Wire Versions (Connection N)** | | | | | |
| Performance | Running torque | cNm | 1.15 | 1.15 | 1.45 | 1.45 |
| | Power output | W | 0.3 | 0.36 | 0.38 | 0.45 |
| Capacitors | Rated voltage $U_N$ | V | 24 | 110 | | |
| | Duty cycle | % | 100 | 100 | | |
| | Resistance $R_{20}$ | Ω | 210 | 5000 | | |
| | Capacitor $C_n$(50Hz) | µF/V ±10% | 4.7/40 | 0.22/200 | | |
| | Winding code | 50Hz/60Hz | B4/G4 | C8/H8 | | |
| | **Specific Technical Data Connector Versions (Connector D and B)** | | | | | |
| Performance | Running torque | cNm | 1.4 | 1.4 | 1.7 | 1.7 |
| | Power output | W | 0.36 | 0.44 | 0.44 | 0.53 |
| Capacitors | Rated voltage $U_N$ | V | 12 | 24 | | |
| | Duty cycle | % | 100 | 100 | | |
| | Resistance $R_{20}$ | Ω | 53 | 210 | | |
| | Capacitor $C_{50}$ | µF/V ±10% | 18/20 | 4.7/40 | | |
| | Winding code | | B1 | B4 | | |

Circuit diagram

Parallel circuit 12 V, 24 V, 48 V



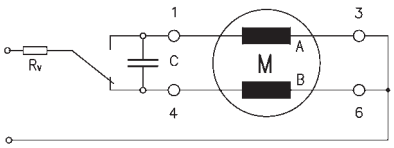

switch to

1 clockwise rotation

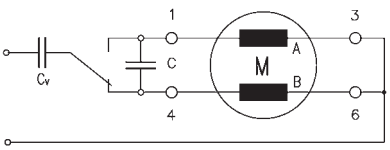
4 counter clockwise rotation

6 counter clockwise rotation (for series circuit)

Parallel circuit 230 V (only for lead wire versions) with 110 V motor and resistor RV



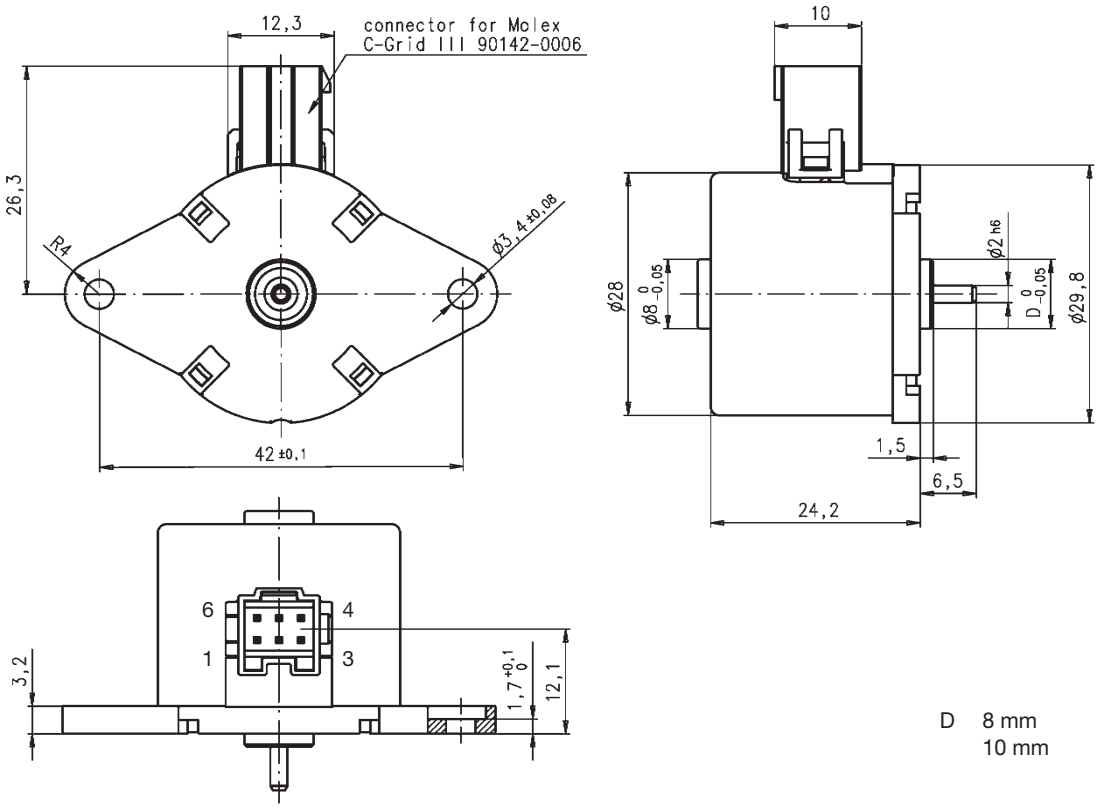

Parallel circuit 230 V (only for lead wire versions) with 110 V motor and capacitor $C_V$




Series resistor $R_V$ = 5.6 kΩ, 3 W

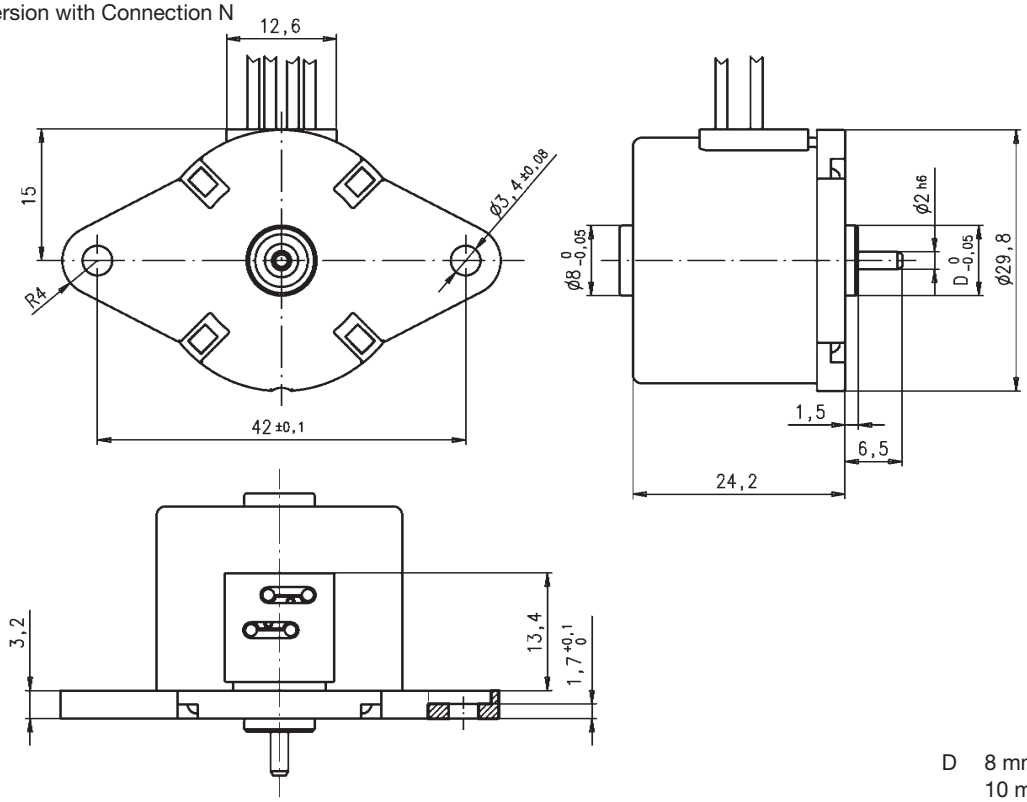
Series capacitor $C_V$ = 0.33 µF, 250 VAC

Dimensions Version with Connector D




D 8 mm
10 mm

Version with Connection N




D 8 mm
10 mm