

Synchronous Motors – Rotational UFR

UFR1/UFR3/UFR4

Dimensions (mm) Ø 52 x 28 / Ø 52 x 42 / Ø 52 x 56

Voltage (V) 24–230

Speed (rpm.) 50 Hz 500
60 Hz 600

Pole number 12

Running
torque (cNm)
50 Hz 2.8 / 3.7 / 5.3
60 Hz 2.6 / 3.1 / 4.7

Power output (W)
50 Hz 1.5 / 1.9 / 2.8
60 Hz 1.6 / 2 / 3

Gear combination A, D, M, B, F, V, J



**RoHS
Compliant**

Standard Data

Climatic class	wide-spread according to IEC 721, part 2-1
Ambient temperature operation	°C -15...+60
Ambient temperature storage	°C -20...+100
Thermal resistance at f=0 R _{therm}	11 K/W (UFR1), 7 K/W (UFR4)
Thermal class	A according to IEC 85
Approval	Standard/UL/CSA
Mounting	any position
Electrical connection	wire
Protection	IP 40 according to DIN 40 050 / DIN EN 60034-5
Weight	180 g (UFR1), 370 g (UFR4)
Rotor stalling	motor can be stopped when voltage is applied, without being overheated
Bearings	sintered bronze, self-lubricating
Surge voltage strength	according to EN 60 034-1/EN 60-335-1

Order Reference – How to Build a Part Number

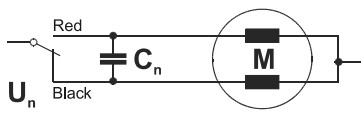
Type	Synchronous Motor	UFR	1	0	N	24 V/50 Hz	R	N
Configuration	1 Two coils 3 Three coils 4 Four coils							
Rotor shaft, mounting	0 center bolt 8 mm, shaft 3.0 mm, clip 1 center bolt 8 mm, shaft 2.0 mm, clip 2 center bolt 8 mm, shaft 1.5 mm, clip	3 center bolt 8 mm, shaft 3.0 mm, screw plate 4 center bolt 8 mm, shaft 2.0 mm, screw plate 5 center bolt 8 mm, shaft 1.5 mm, screw plate						
Approval	N Approval Standard UL Approval UL CSA Approval UL/CSA							
Voltage/Frequency	See page 23							
Direction	reversible							
Cable	N wire 150 mm (other on request)							

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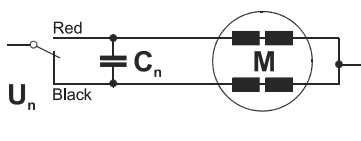
Technical Data

UFR1	Rated frequency	Hz	50	60		
	Speed n	rpm	500	600		
	Power output P _{mech} *	W	1.5	1.6		
	Running torque M _n *	cNm	2.8	2.6		
	Power consumption P _{el} *	W	3.3	3.6		
	Detent torque M _S	cNm	0.46			
	Rotor inertia J _R	gcm ²	14.2			
Capacitors at Rated voltage U _N		V	24	48	110	230
Operation capacitor C ₅₀		μF/VAC	10/45	2.7/90	0.47/200	0.1/400
Operation capacitor C ₆₀		μF/VAC	8.2/45	2.2/90	0.39/200	0.082/440
UFR3	Rated frequency	Hz	50	60		
	Speed n	rpm	500	600		
	Power output P _{mech} *	W	1.9	2		
	Running torque M _n *	cNm	3.7	3.1		
	Power consumption P _{el} *	W	6.1	5.1		
	Detent torque M _S	cNm	0.54			
	Rotor inertia J _R	gcm ²	17			
Capacitors at Rated voltage U _N		V	24	48	110	230
Operation capacitor C ₅₀		μF/VAC	39/24	10/50	1.8/110	0.39/240
Operation capacitor C ₆₀		μF/VAC	27/24	6.8/50	1.2/110	0.27/240
UFR4	Rated frequency	Hz	50	60		
	Speed n	rpm	500	600		
	Power output P _{mech} *	W	2.8	3		
	Running torque M _n *	cNm	5.3	4.7		
	Power consumption P _{el} *	W	6.4	6.9		
	Detent torque M _S	cNm	0.8			
	Rotor inertia J _R	gcm ²	24.2			
Capacitors at Rated voltage U _N		V	24	48	110	230
Operation capacitor C ₅₀		μF/VAC	18/45	7/90	0.82/200	0.22/440
Operation capacitor C ₆₀		μF/VAC	15/45	3.9/90	0.68/200	0.18/440
Tolerance of voltage		Standard power supply system + 10% ... - 10%				
Winding temperature T _{max}		105°C				
Duty cycle		100%				
Direction of rotation		reversible				
* at rated voltage						

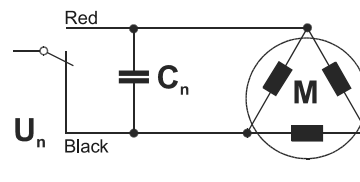
Connection sheet UFR1 Parallel circuit



UFR4 Parallel circuit



UFR3 Parallel circuit

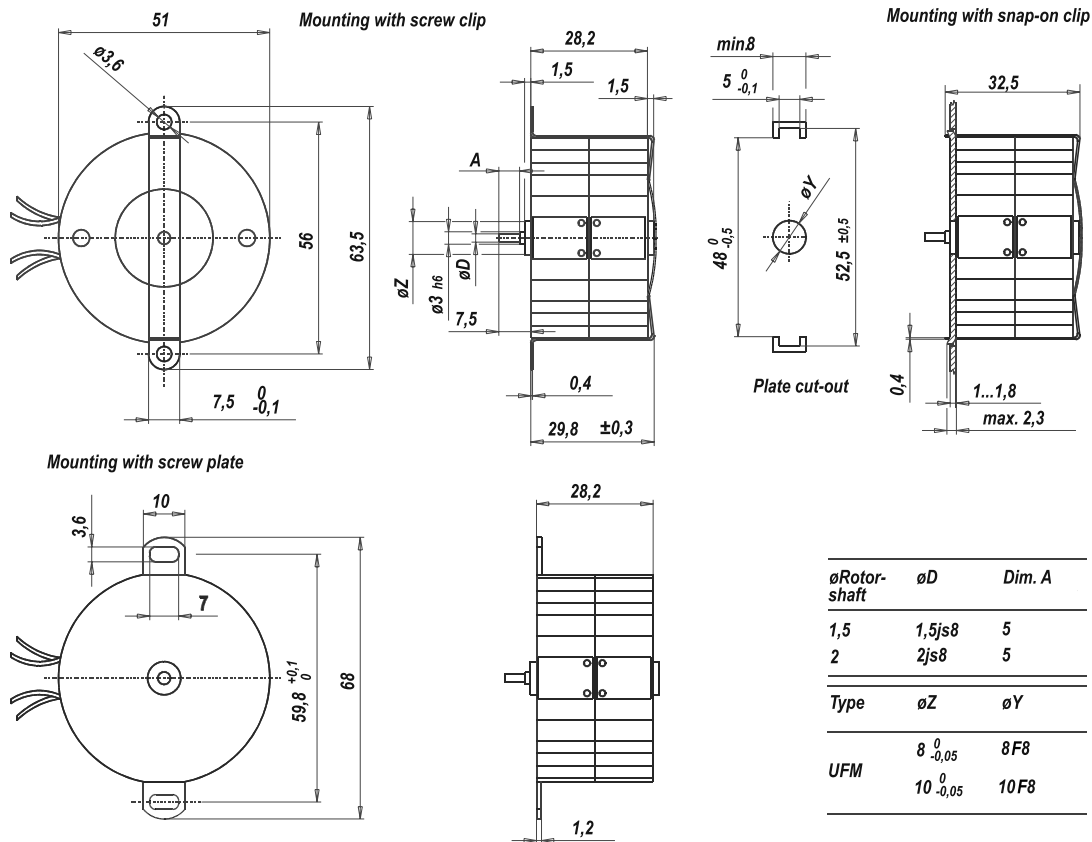


Red = clockwise rotation
Black = counter-clockwise rotation

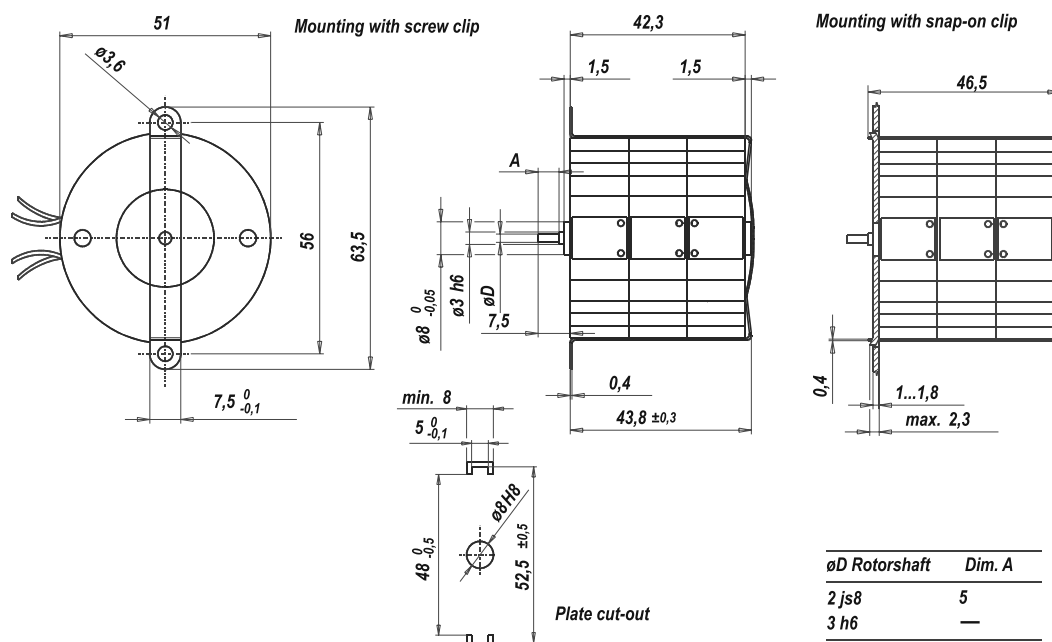
Synchronous Motors – Rotational UFR

Dimensions (mm)

UFR1



UFR3



Synchronous Motors – Rotational UFR

Dimensions (mm)

UFR4

