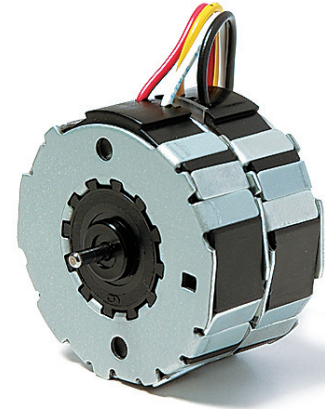


UBR1

UBR1

Dimensions (mm)	Ø 36 x 21
Voltage (V)	12–230
Speed (rpm) 50 Hz	250
60 Hz	300
Pole number	24
Running torque (cNm) 50 Hz	0.9
60 Hz	0.9
Power output (W) 50 Hz	0.24
60 Hz	0.28
Gear combination	D, M, B, F, V, J



Standard Data

Climatic class	wide-spread according to DIN IEC 60721-2-1 : 1992
Ambient temperature operation	°C -15...+55
Ambient temperature storage	°C -20...+100
Thermal resistance at f=0 R _{therm}	27 K/W
Thermal class	105 (A) according to DIN EN 60085 : 2004
Approval	standard (UL/CSA on request)
Mounting	any position
Electrical connection	cable
Protection	IP40 according to DIN EN 60529 : 2000
Weight	60 g
Rotor stalling	motor can be stopped when voltage is applied, without being overheated
Bearings	sintered bronze, self-lubricating
Electric strength	according to DIN EN 60034-1/DIN EN 60335-1

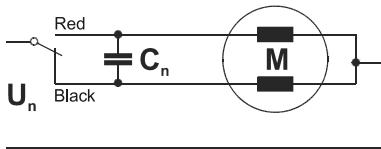
Order Reference

Type	Synchronous Motor	UBR1	0	N	B4	R	E
Rotor shaft, mounting	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					
	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					
Approval	N Approval Standard						
Voltage/Frequency	See next page						
Direction	reversible						
Cable	E cable 150 mm (other on request)						

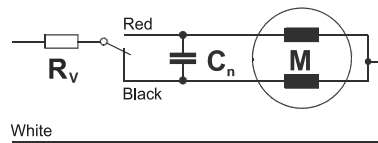
Technical Data

Rated frequency	Hz	50	60			
Speed n	rpm	250	300			
Power consumption	W	1.3	1.3			
Power output	W	0.24	0.28			
Running torque	cNm	0.9	0.9			
Rotor inertia J_R	gcm ²	2.8				
Detent torque M_S	cNm	0.22				
Tolerance of voltage		standard power supply system + 10% / - 10%				
Winding temperature T_{max}	°C	105				
Direction of rotation		reversible				
Rated voltage U_N	V	12	24	48	110	230
Duty cycle	%	100	100	100	100	100
Resistance R_{20}	Ω	104	385	1580	9160	11800
Capacitor C_n (50Hz, 60Hz)	$\mu F/V \pm 10\%$	12/20	3.3/34	0.82/70	0.15/170	0.22;0.12/170
Winding code	50Hz/60Hz	B1/G1	B4/G4	C1/H1	D1/J1	D5/J5

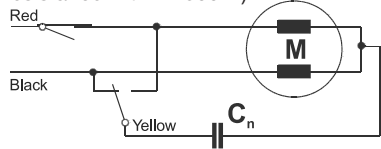
Circuit diagram Parallel circuit 12V, 24V, 48V, 110V



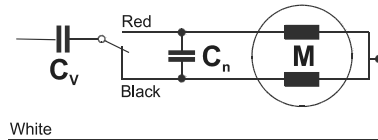
Parallel circuit 230V



Series circuit 230V (for motors with resistance $R_{20} = 11800 \Omega$)

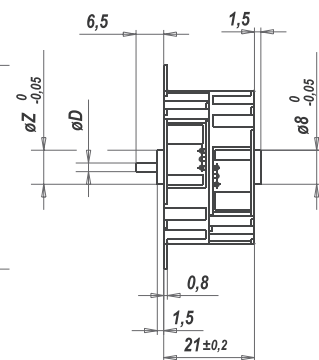
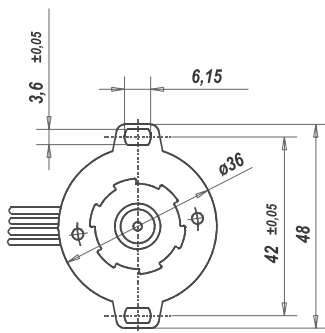


Parallel circuit 230V

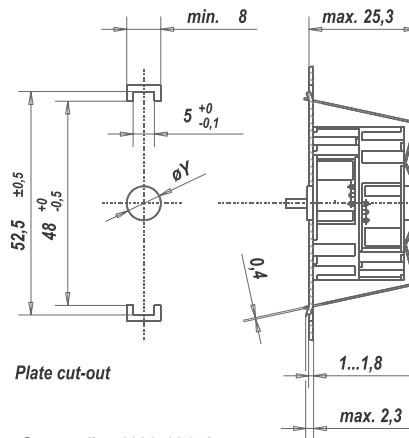


Red = clockwise rotation
Black = counter clockwise rotation

Dimensions Mounting with screw plate



Mounting with snap-on clip
(item no. 4199 48230)



Screw clip: 4199 48450

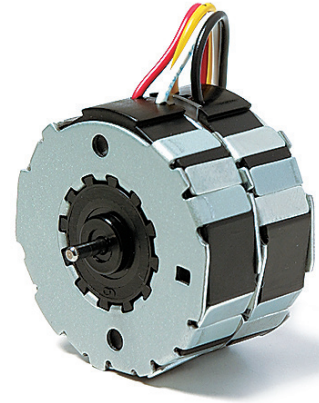
$\varnothing D$ Rotor shaft
 $\varnothing 2$ h6
 $\varnothing 1.5$ js8

$\varnothing Z$	$\varnothing Y$
8	8F8
10	10F8

UBR2

UBR2

Dimensions (mm)	∅ 36 x 21
Voltage (V)	12–230
Speed (rpm) 50 Hz	500
60 Hz	600
Pole number	12
Running torque (cNm) 50 Hz	0.75
60 Hz	0.72
Power output (W) 50 Hz	0.39
60 Hz	0.45
Gear combination	D, M, B, F, V, J



Standard Data

Climatic class	wide-spread according to DIN IEC 60721-2-1 : 1992
Ambient temperature operation	°C -15...+55
Ambient temperature storage	°C -20...+100
Thermal resistance at f=0 R _{therm}	27 K/W
Thermal class	105 (A) according to DIN EN 60085 : 2004
Approval	standard (UL/CSA on request)
Mounting	any position
Electrical connection	cable
Protection	IP40 according to DIN EN 60529 : 2000
Weight	60 g
Rotor stalling	motor can be stopped when voltage is applied, without being overheated
Bearings	sintered bronze, self-lubricating
Electric strength	according to DIN EN 60034-1/DIN EN 60335-1

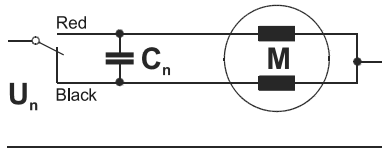
Order Reference

Type	Synchronous Motor		UBR2	0	N	B4	R	E
Rotor shaft, mounting	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				
	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				
Approval	N	Approval Standard						
Voltage/Frequency		See next page						
Direction		reversible						
Cable	E	cable 150 mm (other on request)						

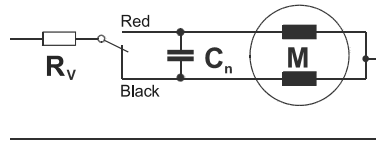
Technical Data

Rated frequency	Hz	50	60			
Speed n	rpm	500	600			
Power consumption	W	1.6	1.6			
Power output	W	0.39	0.45			
Running torque	cNm	0.75	0.72			
Rotor inertia J_R	gcm ²	2.8				
Detent torque M_s	cNm	0.25				
Tolerance of voltage		standard power supply system + 10% / - 10%				
Winding temperature T_{max}	°C	105				
Direction of rotation		reversible				
UBR2 Rated voltage U_N	V	12	24	48	110	230
Duty cycle	%	100	100	100	100	100
Resistance R_{20}	Ω	87	344	1370	7650	12600
Capacitor C_n (50Hz, 60Hz)	$\mu F/V \pm 10\%$	15/20	3.9/40	1/70	0.18/170	0.27;0.22/170
Winding code	50Hz/60Hz	B1/G1	B4/G4	C1/H1	D1/J1	D5/J5
UBR3 Rated voltage U_N	V	12	24	48		
Duty cycle	%	100	100	100		
Resistance R_{20}	Ω	87	344	1370		
Capacitor C_n (50Hz)	$\mu F/V \pm 10\%$	15/20	3.9/40	1/70		
Winding code	50Hz/60Hz	B1/G1	B4/G4	C1/H1		

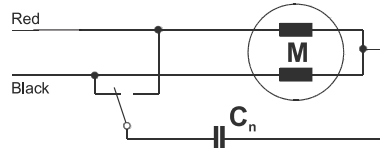
Circuit diagram Parallel circuit 12V, 24V, 48V, 110V



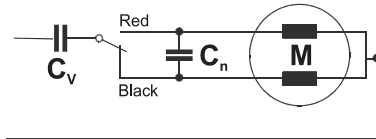
Parallel circuit 230V



Series circuit 230V ($R_v = 12600 \Omega$)

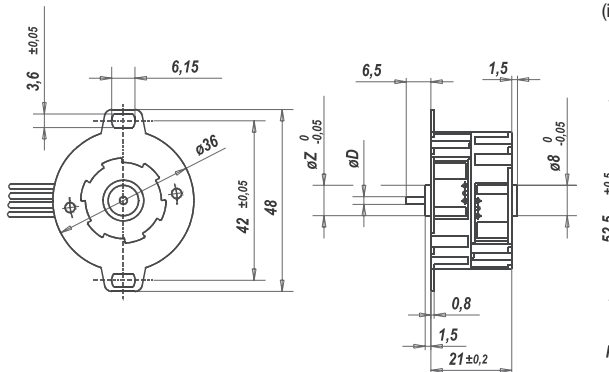


Parallel circuit 230V

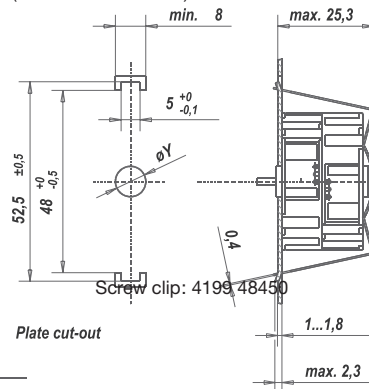


Red = clockwise rotation
Black = counter clockwise rotation

Dimensions Mounting with screw plate



Mounting with snap-on clip
(item no. 4199 48230)



ϕD Rotor shaft
 $\phi 2$ h6
 $\phi 1.5$ js8
 ϕZ ϕY
8 8F8
10 10F8