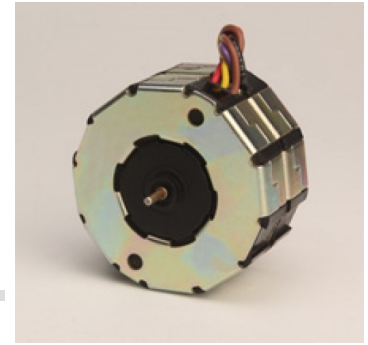




MTR4b



Reversible Synchronous Motor - 500 RPM

Design

MTR4b reversing synchronous motor is of the permanent magnet type with two stator windings, for single phase AC 50/60 Hz. Phase displacement of the excitation current is achieved by connecting a capacitor in parallel with one of the stator windings. The sense of rotation is determined by the resulting circular rotating field. Electrical reversal of the sense of rotation is effected by means of a single-pole changeover switch. The 12 pole rotor which has a steel shaft polished to a mirror-finish rotates in sintered bronze bearings. Motor can be provided with Mounting plate/ Screw clip for fixing.

Features

MTR4b reversing synchronous motor is of the permanent magnet type with two stator windings, for single phase AC 50/60 Hz. Phase displacement of the excitation current is achieved by connecting a capacitor in parallel with one of the stator windings. The sense of rotation is determined by the resulting circular rotating field. Electrical reversal of the sense of rotation is effected by means of a single-pole changeover switch. The 12 pole rotor which has a steel shaft polished to a mirror-finish rotates in sintered bronze bearings. Motor can be provided with Mounting plate/ Screw clip for fixing.

Application

Valve Actuators, Light displays, Textile machinery, Medical equipment, Air conditioning & refrigeration, Dampers peristaltic Pumps, Dosing pumps, Vending machines, CCTV Camera positioning, any positioning Application.

Options

MTR4b reversing synchronous motor is of the permanent magnet type with two stator windings, for single phase AC 50/60 Hz. Phase displacement of the excitation current is achieved by connecting a capacitor in parallel with one of the stator windings. The sense of rotation is determined by the resulting circular rotating field. Electrical reversal of the sense of rotation is effected by means of a single-pole changeover switch. The 12 pole rotor which has a steel shaft polished to a mirror-finish rotates in sintered bronze bearings. Motor can be provided with Mounting plate/ Screw clip for fixing.

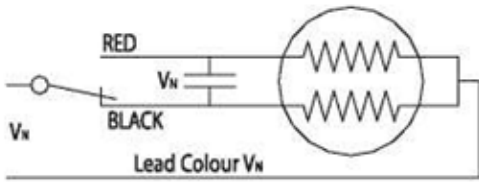
Standard Data

Parameter	Value	Unit
Motor type	Reversible synchronous	V
Ambient temperature operation	-15...+55	°C
Ambient temperature storage	-20...+100	°C
Thermal class	105	°C
Electrical Enclosure	40	IP
Connections	Flexible Leads 22 AWG, 200mm length; ends stripped 10 mm	
Sense of rotation	Indicated by lead colour (red-CW & black ACW)	
Life expectancy	3 Years in continuous operation	
Mounting	any position	
HVT	As per standard IEC60034-1	
Weight	200	g
Rotor stalling	Motor can be stopped when voltage is applied, without being overheated	
Rotor shaft	Hardened steel, ground and polished	
Bearings	Sintered bronze, self-lubricating, (ball bearing on request)	
External dimensions	dia.51.5x28.5 mm	

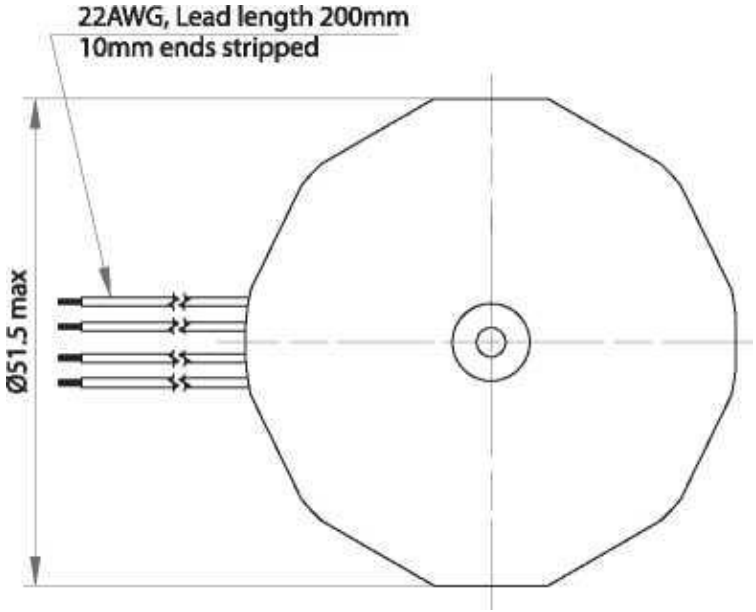
Technical Data

Parameter	Value	Unit
Standard Motor Voltages (Vn)	24, 48, 110, 230	V
Operation capacitor(50 Hz) Cn at 24v	10/50	µF/VAC
Operation capacitor(50 Hz) Cn at 48v	2.7/100	µF/VAC
Operation capacitor(50 Hz) Cn at 110v	0.47/250	µF/VAC
Operation capacitor(50 Hz) Cn at 230v	0.12/400	µF/VAC
Operation capacitor (60Hz) Cn at 24v	8.2/50	µF/VAC
Operation capacitor (60Hz) Cn at 48v	2.2/100	µF/VAC
Operation capacitor (60Hz) Cn at 110v	0.39/250	µF/VAC
Operation capacitor (60Hz) Cn at 230v	0.1/400	µF/VAC
Lead colour (Vn) Blue (24v)	Blue	
Lead colour (Vn) Brown (48v)	Brown	
Lead colour (Vn) White (110v)	White	
Lead colour (Vn) Yellow (230v)	Yellow	
Tolerance of voltage	-10...+15% of rated voltage	%
Duty cycle	100	%
Rated frequency	50, 60	Hz
Power output at rated voltage at (50Hz)	1.41	W
Power output at rated voltage at (60Hz)	1.57	W
Speed at (50Hz)	500	Rpm
Speed at (60Hz)	600	Rpm
Running torque at rated voltage at (50Hz)	2.7	Ncm
Running torque at rated voltage at (60Hz)	2.5	Ncm
Power consumption at rated voltage at (50Hz)	3.6	W
Power consumption at rated voltage at (60Hz)	3.7	W
Detent Torque at (50Hz)	0.46	Ncm
Detent Torque at (60Hz)	-	Ncm

Connection Diagram



Dimensional Drawing



Spur Reduction Gearhead - 35Nm

Speed	Available Ratios	Torque (Nm)	Torque γ -winding	Torque ν -winding	Torque α -winding	Shafts Available
3	166.0000000000	2.7	3.5	4.5	6	OA
2	222.2222222222	3.6	4.8000000000	5.2000000000	6.94224	OB
1.5	333.3333333333	4.5	6.3	7.5	10	OC
1.2	416.6666666667	5.7	8.75	10.75	15	OD
1	500.0000000000	7.2	11.2	14	20	OE
0.9	625.0000000000	9.0	14.0	17.5	25	OF
0.8	750.0000000000	10.8	16.8	21.0	30	OG
0.75	933.3333333333	13.5	21.0	26.25	37.5	OH
0.7	1142.8571428571	15.75	24.5	30.75	45	OI
0.65	1461.5384615385	18.45	29.25	36.75	52.5	OJ
0.6	1800.0000000000	21.6	35.0	43.5	60	OK
0.55	2272.7272727273	25.2	41.25	51.75	70	OL
0.5	3000.0000000000	30.0	49.5	61.5	80	OM

Spur Reduction Gearhead - 30Nm

Speed	Available Ratios	Torque (Nm)	Torque γ -winding	Torque ν -winding	Torque α -winding	Shafts Available
3	166.0000000000	2.7	3.5	4.5	6	OA
2	222.2222222222	3.6	4.8000000000	5.2000000000	6.94224	OB
1.5	333.3333333333	4.5	6.3	7.5	10	OC
1.2	416.6666666667	5.7	8.75	10.75	15	OD
1	500.0000000000	7.2	11.2	14	20	OE
0.9	625.0000000000	9.0	14.0	17.5	25	OF
0.8	750.0000000000	10.8	16.8	21.0	30	OG
0.75	933.3333333333	13.5	21.0	26.25	37.5	OH
0.7	1142.8571428571	15.75	24.5	30.75	45	OI
0.65	1461.5384615385	18.45	29.25	36.75	52.5	OJ
0.6	1800.0000000000	21.6	35.0	43.5	60	OK
0.55	2272.7272727273	25.2	41.25	51.75	70	OL
0.5	3000.0000000000	30.0	49.5	61.5	80	OM

Spur Reduction Gearheads - 15Nm

Speed	Available Ratios	Torque (Nm)	Torque γ -winding	Torque ν -winding	Torque α -winding	Shafts Available
3	166.0000000000	2.7	3.5	4.5	6	OA
2	222.2222222222	3.6	4.8000000000	5.2000000000	6.94224	OB
1.5	333.3333333333	4.5	6.3	7.5	10	OC
1.2	416.6666666667	5.7	8.75	10.75	15	OD
1	500.0000000000	7.2	11.2	14	20	OE
0.9	625.0000000000	9.0	14.0	17.5	25	OF
0.8	750.0000000000	10.8	16.8	21.0	30	OG
0.75	933.3333333333	13.5	21.0	26.25	37.5	OH
0.7	1142.8571428571	15.75	24.5	30.75	45	OI
0.65	1461.5384615385	18.45	29.25	36.75	52.5	OJ
0.6	1800.0000000000	21.6	35.0	43.5	60	OK
0.55	2272.7272727273	25.2	41.25	51.75	70	OL
0.5	3000.0000000000	30.0	49.5	61.5	80	OM

Spur Reduction Gearheads - 6Nm

Speed	Available Ratios	Torque (Nm)	Torque γ -winding	Torque ν -winding	Torque α -winding	Shafts Available
3	166.0000000000	2.7	3.5	4.5	6	OA
2	222.2222222222	3.6	4.8000000000	5.2000000000	6.94224	OB
1.5	333.3333333333	4.5	6.3	7.5	10	OC
1.2	416.6666666667	5.7	8.75	10.75	15	OD
1	500.0000000000	7.2	11.2	14	20	OE
0.9	625.0000000000	9.0	14.0	17.5	25	OF
0.8	750.0000000000	10.8	16.8	21.0	30	OG
0.75	933.3333333333	13.5	21.0	26.25	37.5	OH
0.7	1142.8571428571	15.75	24.5	30.75	45	OI
0.65	1461.5384615385	18.45	29.25	36.75	52.5	OJ
0.6	1800.0000000000	21.6	35.0	43.5	60	OK
0.55	2272.7272727273	25.2	41.25	51.75	70	OL
0.5	3000.0000000000	30.0	49.5	61.5	80	OM

Spur Reduction Gearheads - 5Nm

Speed	Available Ratios	Torque (Nm)	Torque γ -winding	Torque ν -winding	Torque α -winding	Shafts Available
3	166.0000000000	2.7	3.5	4.5	6	OA
2	222.2222222222	3.6	4.8000000000	5.2000000000	6.94224	OB
1.5	333.3333333333	4.5	6.3	7.5	10	OC
1.2	416.6666666667	5.7	8.75	10.75	15	OD
1	500.0000000000	7.2	11.2	14	20	OE
0.9	625.0000000000	9.0	14.0	17.5	25	OF
0.8	750.0000000000	10.8	16.8	21.0	30	OG
0.75	933.3333333333	13.5	21.0	26.25	37.5	OH
0.7	1142.8571428571	15.75	24.5	30.75	45	OI
0.65	1461.5384615385	18.45	29.25	36.75	52.5	OJ
0.6	1800.0000000000	21.6	35.0	43.5	60	OK
0.55	2272.7272727273	25.2	41.25	51.75	70	OL
0.5	3000.0000000000	30.0	49.5	61.5	80	OM

Spur Reduction Gearheads - 3Nm

Speed	Available Ratios	Torque (Nm)	Torque γ -winding	Torque ν -winding	Torque α -winding	Shafts Available
3	166.0000000000	2.7	3.5	4.5	6	OA
2	222.2222222222	3.6	4.8000000000	5.2000000000	6.94224	OB
1.5	333.3333333333	4.5	6.3	7.5	10	OC
1.2	416.6666666667	5.7	8.75	10.75	15	OD
1	500.0000000000	7.2	11.2	14	20	OE
0.9	625.0000000000	9.0	14.0	17.5	25	OF
0.8	750.0000000000	10.8	16.8	21.0	30	OG
0.75	933.3333333333	13.5	21.0	26.25	37.5	OH
0.7	1142.8571428571	15.75	24.5	30.75	45	OI
0.65	1461.5384615385	18.45	29.25	36.75	52.5	OJ
0.6	1800.0000000000	21.6	35.0	43.5	60	OK
0.55	2272.7272727273	25.2	41.25	51.75	70	OL
0.5	3000.0000000000	30.0	49.5	61.5	80	OM

Spur Reduction Gearheads - 2Nm

Speed	Available Ratios	Torque (Nm)	Torque γ -winding	Torque ν -winding	Torque α -winding	Shafts Available
3	166.0000000000	2.7	3.5	4.5	6	OA
2	222.2222222222	3.6	4.8000000000	5.2000000000	6.94224	OB
1.5	333.3333333333	4.5	6.3	7.5	10	OC
1.2	416.6666666667	5.7	8.75	10.75	15	OD
1	500.0000000000	7.2	11.2	14	20	OE
0.9	625.0000000000	9.0	14.0	17.5	25	OF
0.8	750.0000000000	10.8	16.8	21.0	30	OG
0.75	933.3333333333	13.5	21.0	26.25	37.5	OH
0.7	1142.8571428571	15.75	24.5	30.75	45	OI
0.65	1461.5384615385	18.45	29.25	36.75	52.5	OJ
0.6	1800.0000000000	21.6	35.0	43.5	60	OK
0.55	2272.7272727273	25.2	41.25	51.75	70	OL
0.5	3000.0000000000	30.0	49.5	61.5	80	OM