

High Quality, High Torque Step Motors MST230-233

Specifications

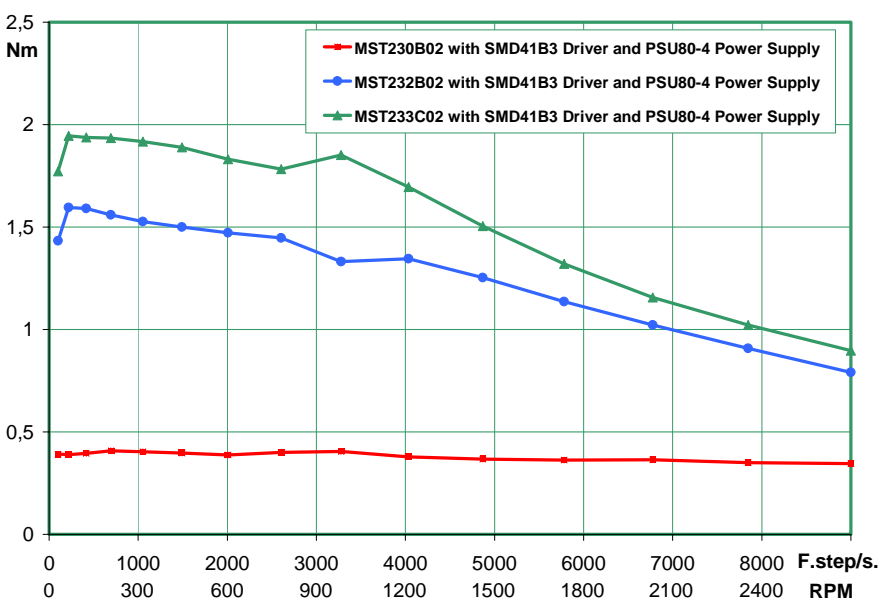
Step motors MST230, 231, 232 and 233 have been designed by JVL for use with the entire range of JVL Step Motor Drivers and Controllers. MST230/31/32/33 are high torque step motors especially made for mini- and microstep operation.

General Specifications	
Step angle	1.8 Deg/200 steps/rev.
Number of phases	4 (8 leads)
Fullstep angle accuracy. No load	±2% of 1.8° = 0.036°
Microstep angle accuracy. No load	±5% of 1.8° = 0.09°
Ambient temperature	-35°C to 40°C
Operating temperature	Max. 130°C
Insulation resistance	100 MΩ Min. (500V DC)
Insulation class	Class B=130
Cable length	300mm
Protection	IP41 Option IP54 with oil seal
Radial play	Max. 0.025mm (0.5kg Load)
End play	Max. 0.075mm (1kg Load)
Radial load	Max. 7kg (applied 6.7mm from shaft end)
Thrust load	Max. 6kg
Max. drive voltage	80 VDC

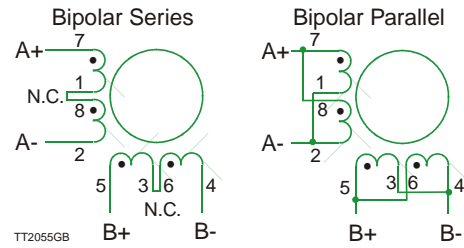
Nominal data at 25°C. Actual data will vary ±10%

Electrical and Mechanical Specifications	MST230B02		MST231B02		MST232B02		MST233C02	
	Parl.	Ser.	Parl.	Ser.	Parl.	Ser.	Parl.	Ser.
Holding Torque (Nm)	0.48		1.2		1.9		2.1	
Running Torque (low speed)(Nm)	0.41		1.0		1.7		1.94	
Phase Current (A)	4.3	2.1	4.3	2.1	6.4	3.2	7.0	3.5
Phase Resistance (Ω)	0.3	1.2	0.5	2.0	0.3	1.0	0.3	1.0
Phase Inductance (mH)	0.3	1.2	0.9	3.8	0.5	1.9	0.6	2.2
Phase Voltage (V)	1.9	3.8	3.0	6.0	2.3	4.5	2.6	5.2
Weight (kg)	0.5		0.7		1.0		1.5	
Rotor Inertia (kgcm ²)	0.12		0.3		0.48		0.72	
Detent Torque (Nm)	0.02		0.04		0.05		0.06	

Torque-Velocity Profiles



Connections



Color	MST231	Pin no.	Bipolar Series	Bipolar Parallel
Black	Red	7	A+	A+
White/Black	White/Red	1	Pin 8 and 1 connected together	A-
White/Orange	White/Black	8		A+
Orange	Black	2	A-	A-
Red	Green	5	B+	B+
White/Red	White/Green	3	Pin 3 and 6 connected together	B-
White/Yellow	White/Yellow	6		B+
Yellow	Yellow	4	B-	B-

Motor direction can be reversed by changing A+ and A-
Note: N.C. not to be connected to other places in Bipolar Series.

Option: IP54 Oil Seal MST001-SMI1



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