

MD□-40 Series

- Direct Drive Brushless AC Servo
- 40mm diameter, 3 stack lengths
- Incremental or absolute encoder feedback



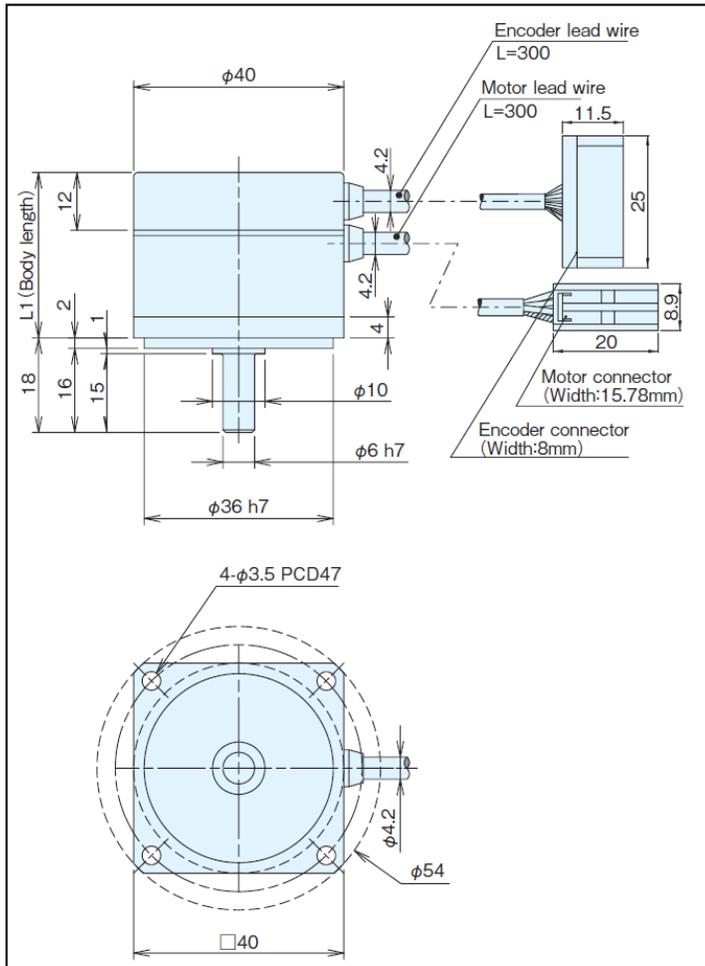
Visit nipponpulse.com to download 3D CAD drawings and 2D prints of this motor.

Specifications	Unit	MDS-4006	MDH-4006	MDS-4012	MDH-4012	MDS-4018	MDH-4018
Peak Stall Torque	Nm	0.33		0.70		1.0	
Rated Torque	Nm	0.12		0.20		0.28	
Continuous Rated Torque	Nm	0.10		0.16		0.23	
Max Speed	rpm	450					
Rated Speed	rpm	450					
Max Encoder Resolution	P/R	Incremental: 2,592,000 (multiplied by 4) / Absolute: 1,048,576 (20 bit)					
Input Power (driver input)	VDC	48					
Peak Power	W	14		27		40	
Peak Armature Current	Arms	6.3		7.5		10	
Rated Armature Current*	Arms	1.6		1.7		2.3	
Voltage Constant	V/krpm	6.1		10		11	
Torque Constant (at 25°C)	Nm/Arms	0.058		0.096		0.10	
Line Armature Resistance (at 25°C)	Ω	2.6		2.5		1.7	
Line Armature Inductance	mH	2.6		3.0		2.0	
Rotor Poles	P	16					
Moment of Inertia (J)	g·cm ²	23.3	28.8	39.1	44.5	54.9	60.3
Permissible Radial Load (Fr)	N	140					
Permissible Axial Load (Fa)	N	70					
Mass	kg	0.21		0.26		0.30	
Operating Environment		0°C - +40°C, 10% to 85% relative humidity (non-condensing)					
Standard Heatsink		150 x 150 x 8 Aluminum					

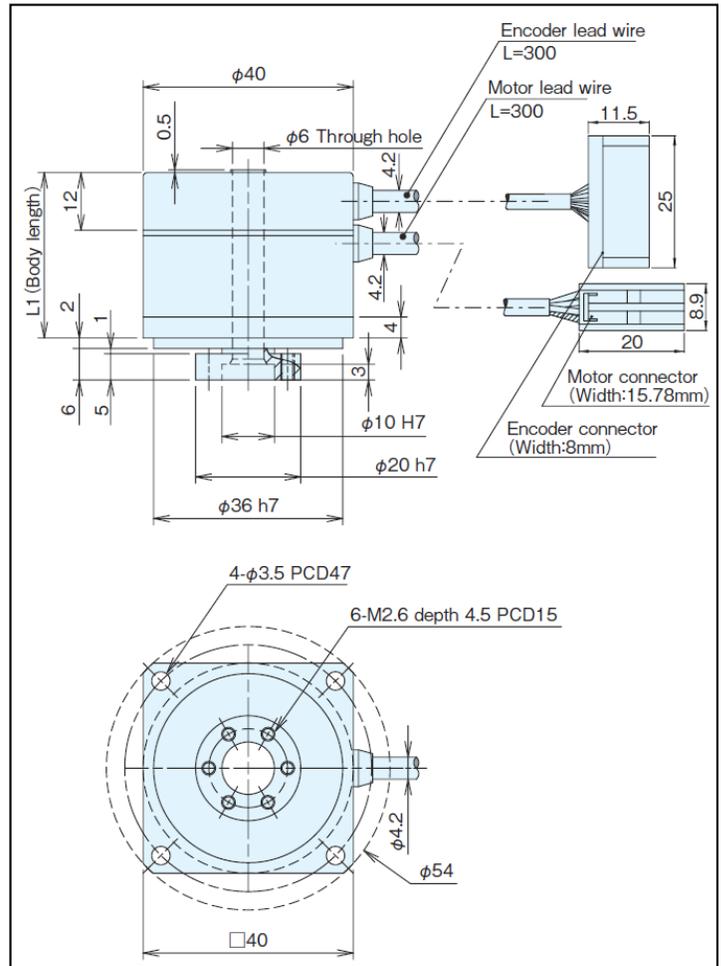
* Rated armature current is the value measured with the standard heatsink attached to the motor at an ambient temperature of 40°C.

Encoder Options	Base Resolution	Interpolation Factors	Max. Resolution (post quad)
Incremental	3240 6750	25, 32, 50, 64, 100, 125, 128, 200 2, 4, 5, 8, 10, 16, 20, 32	2,592,000 864,000
Absolute (single turn)	20-bit	BiSS-C format	1,048,576

MDS-40XX Dimensions



MDH-40XX Dimensions



Standard Models

- MD□-40△-324KE (Incremental)
- MD□-40△-20B (Absolute)

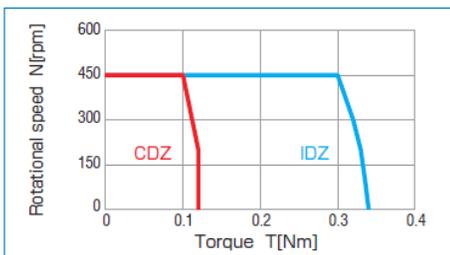
□ = shaft configuration △ = stack length indicator
 S = solid shaft, H = hollow shaft 06, 12, 18

Model	Stack Length (L1)
MD□-4006	31.5 mm
MD□-4012	37.5 mm
MD□-4018	43.5 mm

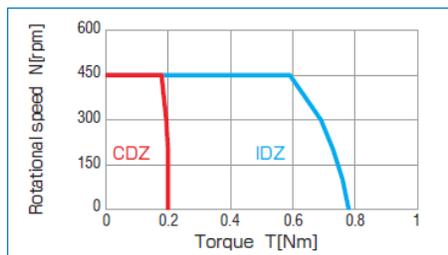
see drawings of motor dimensions on next page

Performance Curves

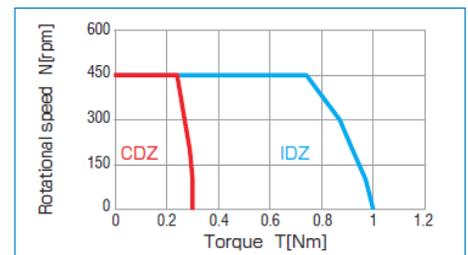
MD□-4006



MD□-4012



MD□-4018



CDZ = Continuous Duty Zone, IDZ = Intermittent Duty Zone

Performance curve based on MCC Drive, 48VDC input power

For assistance in selecting the best motor for your application, contact Nippon Pulse to speak with an applications engineer. 1-540-633-1677