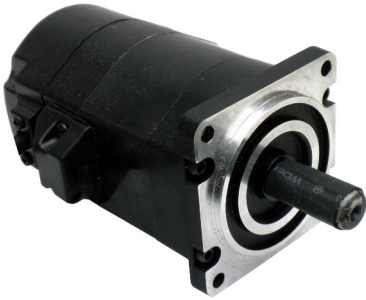


LSM60 Series Brushless Servo Motors

Product Description



The LSM60 series servo motors offer high performance with wide output range from 100W to 750W*. This series motors are designed to operate over a broad range of speeds and have the advantage of reduced maintenance since there are no brushes or commutators. Owing to their high performance-price ratios, these motors are ideal for cost sensitive applications. Standard model includes a standard 2500 line encoders with differential encoder signals, (A, B, Index), and Hall Sensors with standard Hall signals, (U, V, W). Driven by our own DSD-series

servo drives, the LSM60 series motors can meet many high speed application requirements and have very low torque ripple, at 0.3% of rated torque.

Features

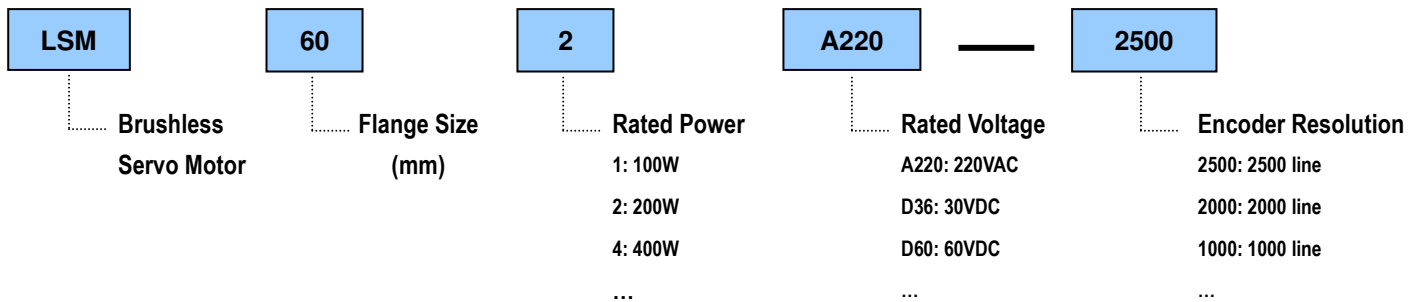
- High performance (Smooth operation, High precision and Low noise)
- Cost-effective
- 0.31Nm to 1.27Nm continuous torque accommodates a wide range of application requirements
- 60mm square frame size offering 3 power options up to 400W
- Winding voltages of 36VDC to 220 VAC (36 to 325 VDC bus rated) meets different voltage capability
- Rated speed of standard models up to 3000 RPM, meet many high speed application requirements
- Maintenance-free 3 phase brushless construction
- Compact (high torque/volume ratio) for maximum torque in minimum space

Typical Applications

- Engraving machines, Cutting machines, Jet-ink machines
- Measuring devices, such as Imager, Analytic Instruments, etc.
- Electronic packaging equipments and Loading and unloading devices
- Medical instruments
- Experimental installations and Instructional machines

* Motors with rated powers higher than 400W are coming soon.

Breakdown of LSM60 Series Servo Motors Part Numbers



LSM60 Servo Motor Specifications

Parameters	LSM601D36	LSM602D36	LSM602D60	LSM604D60	LSM604A220
Rated voltage (V)	36VDC	36VDC	60VDC	60VDC	220VAC
Rated power (W)	100	200	200	400	400
Rated torque (Nm)	0.318	0.64	0.64	1.27	1.27
Peak torque (Nm)	0.95	1.91	1.91	3.82	3.82
Rated speed (RPM)	3000	3000	3000	3000	3000
Peak speed (RPM)	4000	4000	4000	4000	5000
Rated current (A)	4	7.6	4.7	8.4	2.8
Peak current (A)	11	22	14	25	8.5
Torque constant (Nm/A)	0.0866	0.0918	0.15	0.161	0.49
Back EMF constant (V/KRPM)	3.03	3.213	5.24	5.54	17
Resistance (Ohm)	380	163	378	192	1425
Inductance (mH)	0.91	0.41	1.07	0.59	6
Inertia (Kgm ² x 10 ⁻⁴)	0.1032	0.176	0.176	0.3549	0.3549
Allowable radial load (N)	78.6	245	245	245	245
Allowable axial load (N)	38.2	68	68	74	74
Flange size (mm)	60	60	60	60	60
Mounting diameter (mm)	70	70	70	70	70
Shaft diameter (mm)	8	11	11	14	14
Motor length (mm)	86.7	100.7	100.7	127.8	127.8
Pole pairs	4	4	4	4	4
Weight (kg)	0.70	0.97	0.97	1.46	1.48
Encoder resolution (Line)	2500 (Optional)	2500 (Optional)	2500 (Optional)	2500 (Optional)	2500 (Optional)
Ambient temperature (°C)	0~40	0~40	0~40	0~40	0~40

Mechanical Specifications

Mechanical specification of the LSM601D36 motor (plus encoder) is shown as Figure 1.

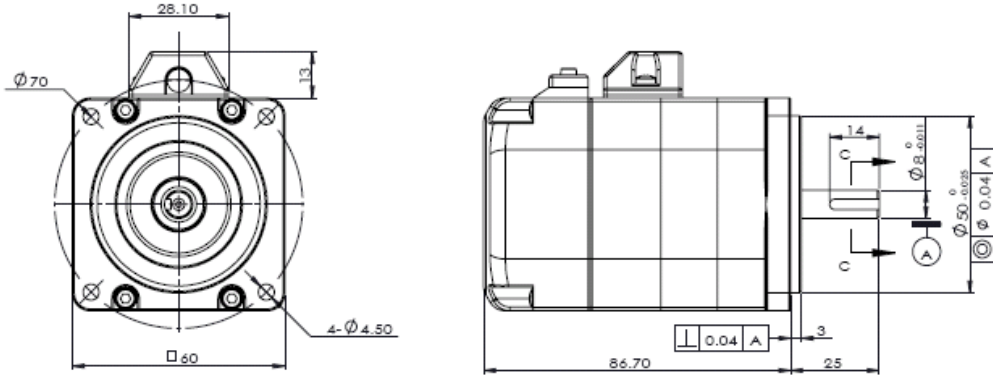


Figure 1: Mechanical specification of the LSM601D36 motor (plus encoder)

Mechanical specification of the LSM602D36 and LSM602D60 motors (plus encoder) is shown as Figure 2.

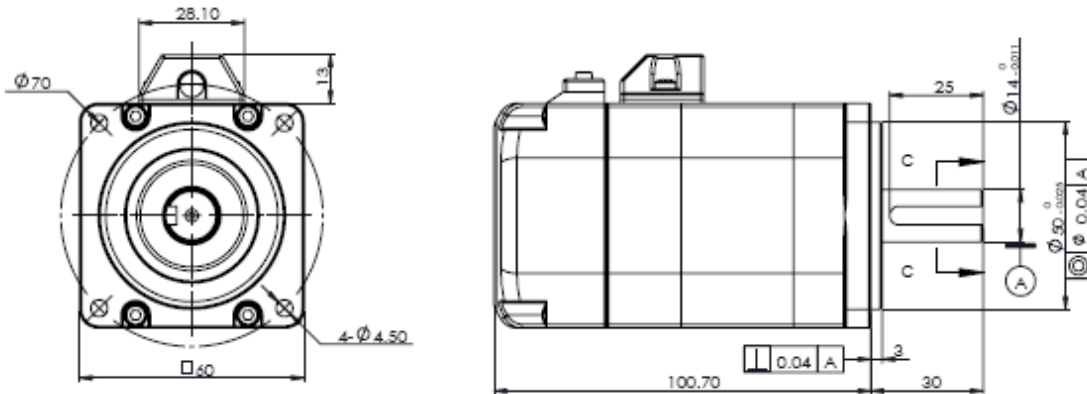


Figure 2: Mechanical specification of the LSM602D36 and LSM602D60 motors (plus encoder)

Mechanical specification of the LSM604D60 and LSM604A220 motors (plus encoder) is shown as Figure 3.

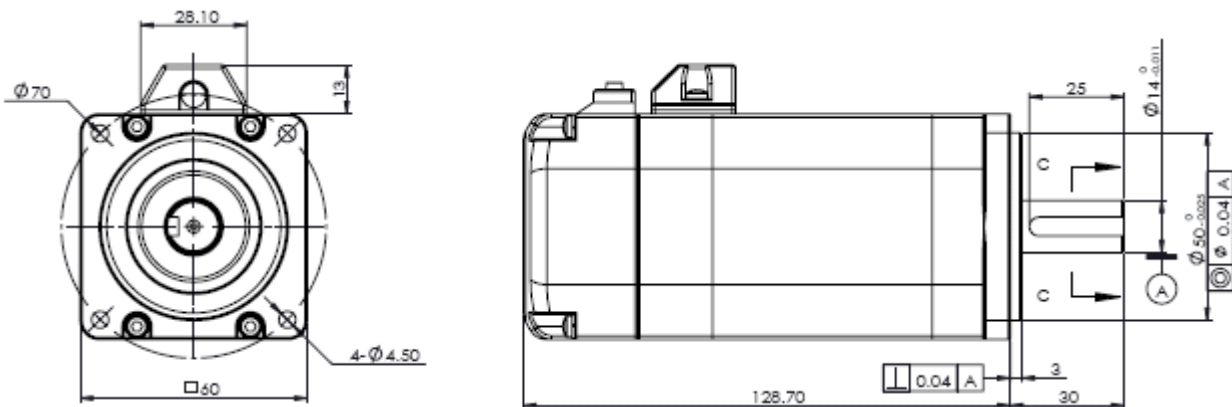


Figure 3: Mechanical specification of the LSM604D60 and LSM604A220 motors (plus encoder)

Order Information

Model	Description
DSD806	Recommended MCP's DSD806 digital servo drive. Input voltage: 24~80VDC; Continuous output current up to 6A; Peak current: 18A; Suitable for 100W~400W servo motors (24~80VDC)
ProTuner	Professional Windows based servo tuning software for DSD series digital servo drives.
STU-AC	Small servo tuning unit for DSD series digital servo drives.
LSM601D36	LSM601D36 servo motor, Rated Voltage: 36VDC, Rated Power: 100W
LSM602D36	LSM602D36 servo motor, Rated Voltage: 36VDC, Rated Power: 200W
LSM602D60	LSM602D60 servo motor, Rated Voltage: 60VDC, Rated Power: 200W
LSM604D60	LSM604D60 servo motor, Rated Voltage: 60VDC, Rated Power: 400W
LSM604A220	LSM604A220 servo motor, Rated Voltage: 220VAC, Rated Power: 400W

Typical Connections

A typical connection of LSM60 servo motors with Motion Control Products Ltd's DSD806 digital servo drive is shown as Figure 4 on page 5.

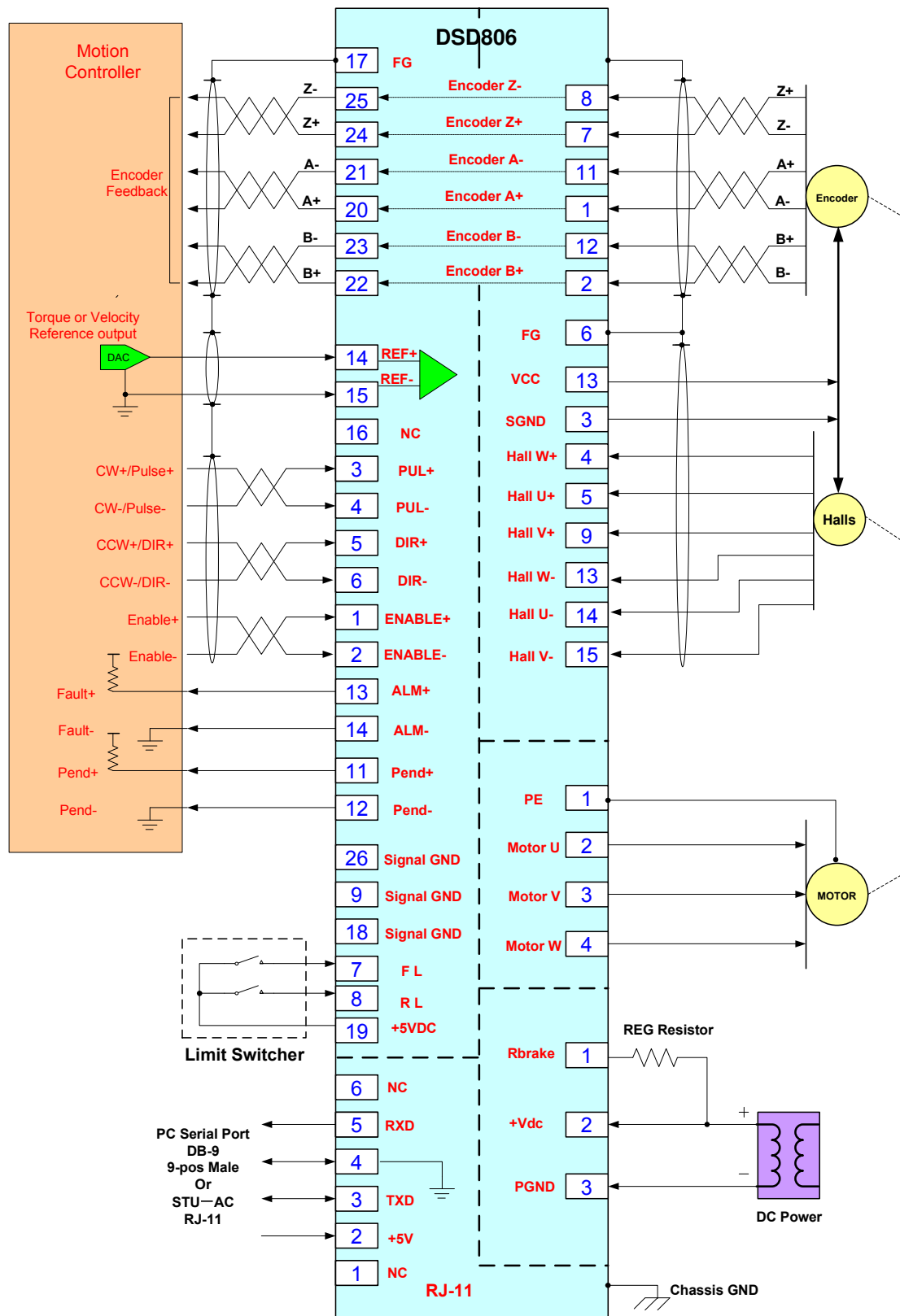


Figure 4: Typical connection with DSD806 digital servo drive