

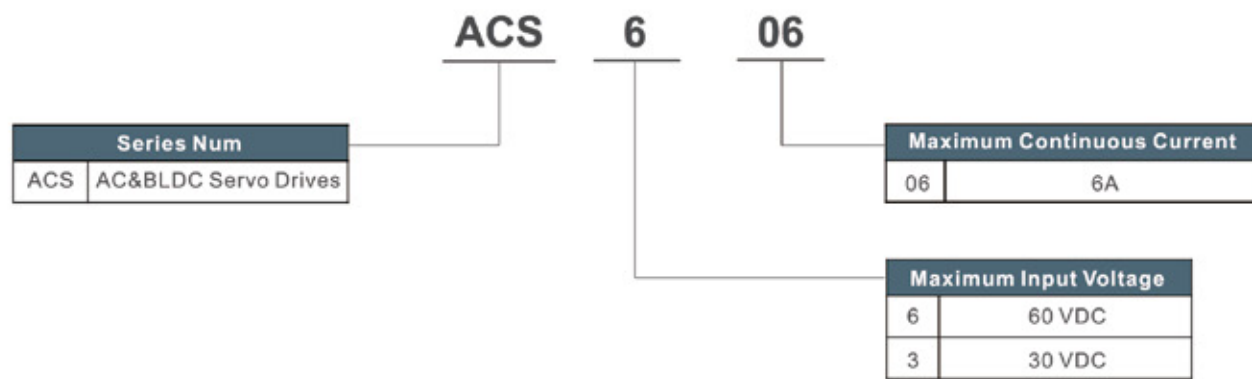
ACS Series Brushless Drives

The ACS series brushless drives are a traditional product series which provide a very cost-effective drive. It has been widely used for some application which need to enhance the performance and efficiency of the Machine, such as inkjet printers, engraving machines, electronics manufacturing equipments, special NC machines, pick and place devices, packing devices, and so on.

- 18-80Vdc · 6Amp cont/18Amp peak
- Up to 200watt
- Pulse + direction
- Cost-effective
- Compact size



Part Number

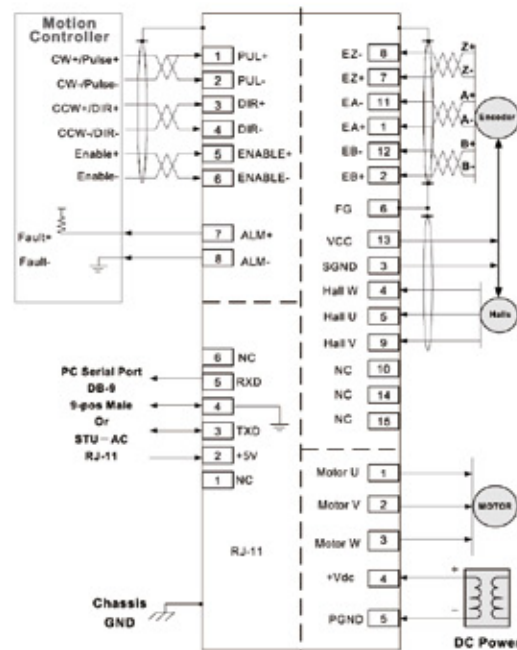


Specifications

| Parameters | ACS306 | ACS606 |
|------------------------------|--|--|
| Maximum Continuous Power | 150 W | 200 W |
| Maximum Continuous Current | 6 A | 6 A |
| Peak Current | 15 A | 18 A |
| Input Voltage | 18 to 30 VDC | 18 to 60 VDC |
| Logical Signal Input Current | 7 to 20 mA | 7 to 20 mA |
| Pulse Input Frequency | 0 to 250 kHz | 0 to 250 kHz |
| Isolation Resistance | 500 MΩ | 500 MΩ |
| Current Provided for Encoder | 100 mA | 100 mA |
| Command Input | Step/Direction | Step/Direction |
| Enable/Disable Input | Differential | Differential |
| Alarm Signal Output | Isolated OC Output | No |
| End Limit Input | No | No |
| In Position Signal Output | No | No |
| Encoder Feedback | A, B, Z (Differential) | A, B, Z (Differential) |
| Hall Effect Sensor Feedback | U, V, W (Single-ended) | U, V, W (Single-ended) |
| Encoder Output | No | No |
| Communication Interface | RS232 | RS232 |
| Braking Resistor | No | No |
| Size (mm) | 116×69.2×26.5 | 118×75.5×34 |
| Weight (g) | 280 | 280 |
| Powering Motors | 18 - 30 VDC, 10-150 W Brushless Servo Motors: BLM57025, BLM57050 | 18 - 60 VDC, 10-200 W Brushless Servo Motors: BLM57090, BLM57130, BLM57180, 57BL180 |

Typical connection

- ACS306, ACS606

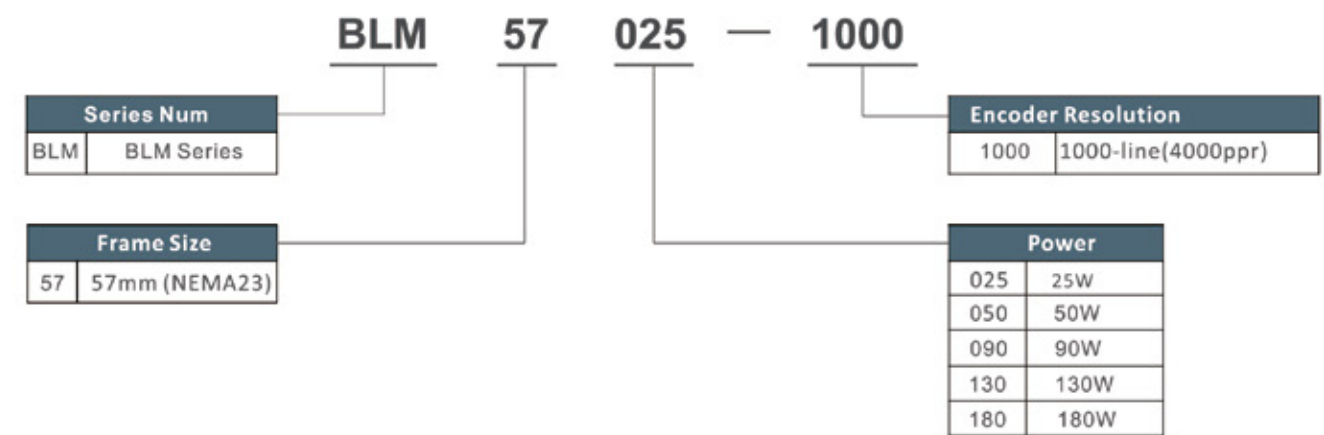


BLM Series Brushless Motors

BLM series brushless motors are highly cost-effective brushless DC motors with a 1000-line differential encoder (EA+/EA-, EB+/EB-), and Hall Sensors with standard Hall signals (U, V, W), which offer AC-servo-like performance, low motor noise and low heating performance, while at the cost of normal stepper systems.



Part Number



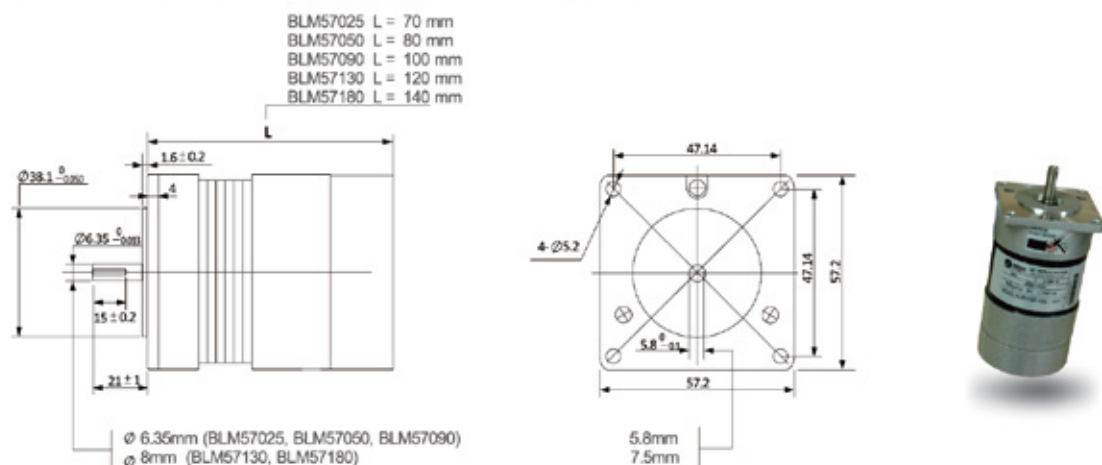
Notes:

1. The 57BL180 is a screw mounted model and the above "Part Number" does not apply.
2. Rated voltage of the BLM57025, BLM57050 is 24VDC, and rated voltage of the BLM57090, BLM57130, BLM57180 and 57BL180 is 36VDC.
3. Standard models of the BLM series come with a standard 1000-line differential encoder with index slits (A, B, Z), and Hall Sensors (U, V, W).

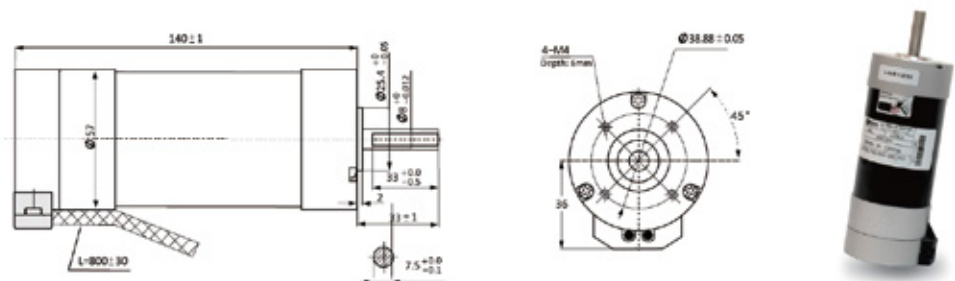
Specifications

| Parameters | Units | BLM57025 | BLM57050 | BLM57090 | BLM57130 | BLM57180 | 57BL180 |
|-------------------|-------------------------------------|----------|----------|----------|----------|----------|---------|
| Rated Voltage | VDC | 24 | 24 | 36 | 36 | 36 | 36 |
| Rated Power | W | 25 | 50 | 90 | 130 | 180 | 180 |
| Rated Torque | Nm | 0.08 | 0.16 | 0.29 | 0.41 | 0.57 | 0.57 |
| Rated Current | A | 1.6 | 3 | 3.45 | 5.3 | 6.7 | 7 |
| Rated Speed | RPM | 3000 | 3000 | 3000 | 3000 | 3000 | 3000 |
| Peak Torque | Nm | 0.24 | 0.48 | 0.87 | 1.23 | 1.71 | 1.71 |
| Peak Current | A | 4.8 | 9 | 10.35 | 15.9 | 20 | 20.5 |
| Torque Constant | Nm/A | 0.05 | 0.053 | 0.084 | 0.078 | 0.085 | 0.089 |
| Back EMF Constant | V/krpm | 5.2 | 5.55 | 8.8 | 8.2 | 8.9 | 9.3 |
| Inertia | Kg·m ² ×10 ⁻⁵ | 0.3 | 0.75 | 1.19 | 1.73 | 2.3 | 2.3 |
| Poles | - | 4 | 4 | 4 | 4 | 4 | 4 |

• BLM57025, BLM57050, BLM57090, BLM57130, BLM57180



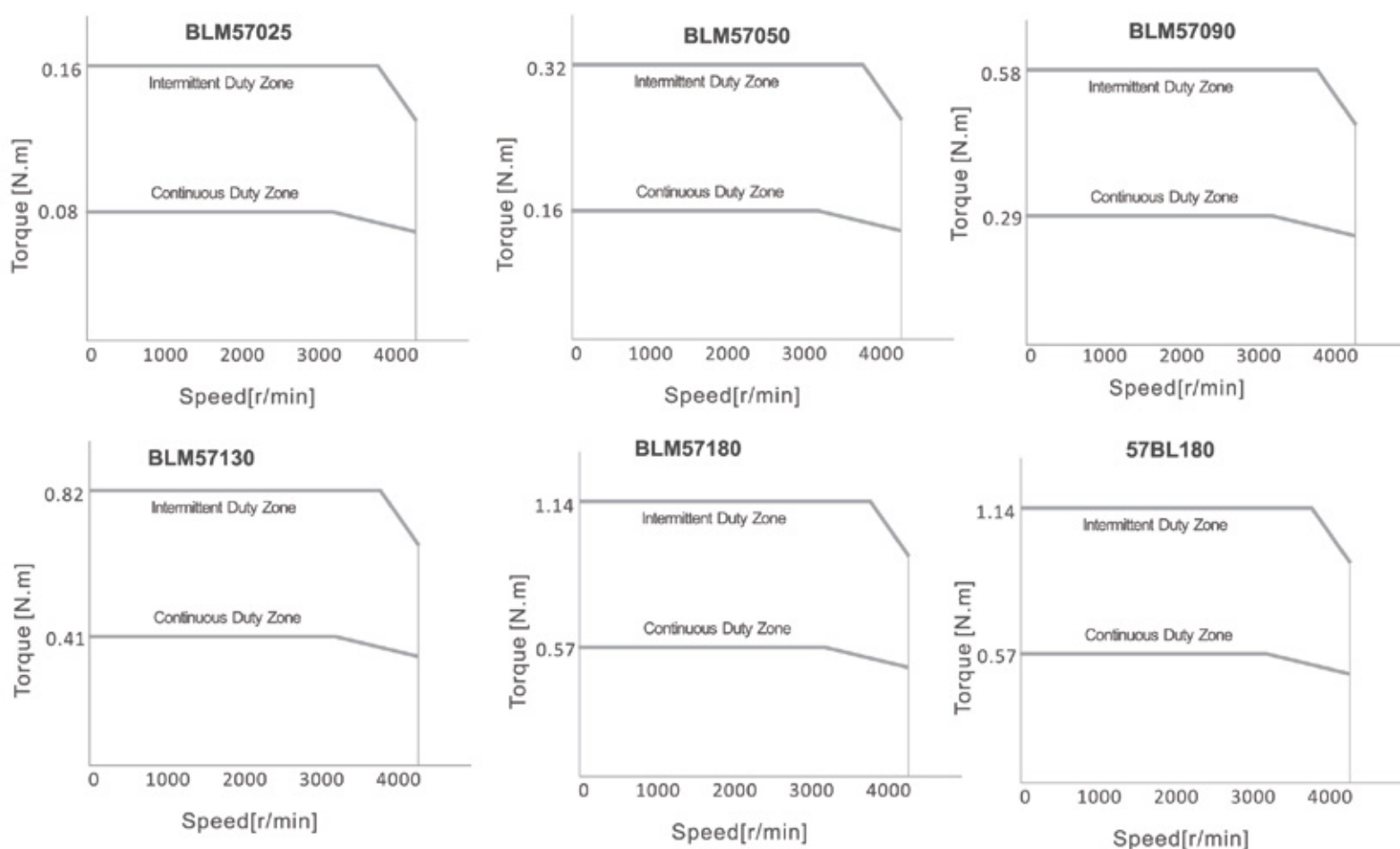
• 57BL180



Installation Notes:

- (1) Do not give strong impact shock to the motor shaft.
- (2) Make sure the hall sensor signals U/V/W are connected to the drive correctly.
- (3) The motors are not water proof. Please contact Leadshine if you need a water proof product.
- (4) Keep the ambient temperature within the permissible temperature range (0 to 40 °C) for the product. Use force cooling method if necessary.
- (5) The thread depth of the M4 mounting holes of the 57BL180 is 6.0 mm. Do not screw more than 6.0 mm as this will cause damage to the motor.

Torque-Speed Curves



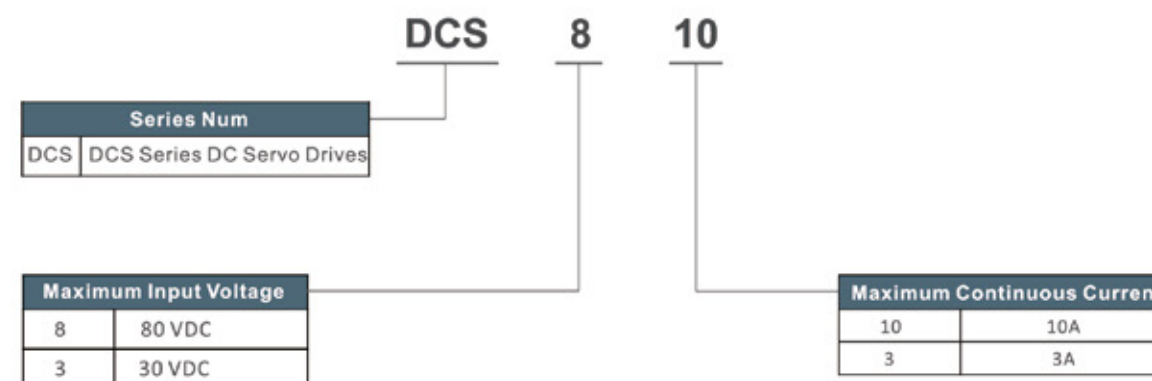
DCS Series Brushed Drives

DCS series brushed drives are brushed servo drives developed with advanced algorithms for smooth motion control. All inputs of those servo drives are opto-isolated. Taking step and direction control inputs makes drives easy to implement in many OEM applications. They can drive 10W to 400W brush DC servo motors at very high precision smoothly and quietly with very low motor heating at very effective costs.

- Step & direction, or CW/CCW control
- 18 to 80 VDC supply range
- Up to 10 A continuous and 20 A peak current
- Opto-isolated inputs
- Capable driving servo motors with single-ended or differential signals



Part Numbers

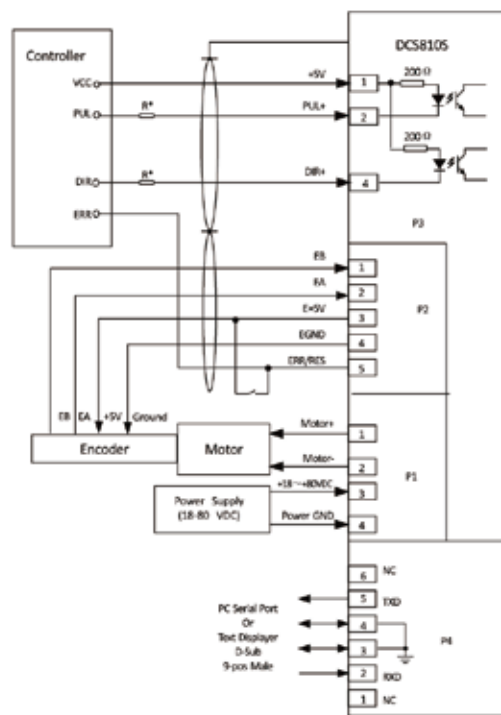


Specifications

| Parameters | DCS303 | DCS810 | DCS810S |
|------------------------------|---|--|--|
| Maximum Continuous Power | 90 W | 400 W | 400 W |
| Maximum Continuous Current | 3 A | 10 A | 10 A |
| Peak Current | 15 A | 20 A | 20 A |
| Input Voltage | 18 to 30 VDC | 18 to 80 VDC | 18 to 80 VDC |
| Logical Signal Input Current | 7 to 20 mA | 7 to 20 mA | 7 to 20 mA |
| Pulse Input Frequency | 0 to 250 kHz | 0 to 250 kHz | 0 to 250 kHz |
| Isolation Resistance | 500 MΩ | 500 MΩ | 500 MΩ |
| Current Provided for Encoder | 50 mA | 50 mA | 50 mA |
| Command Input | Step/Direction Single-ended | Step/Direction & CW/CCW Single-ended & Differential | Step/Direction & CW/CCW Single-ended |
| Enable/Disable Input | Single-ended | Differential | Differential |
| Alarm Signal Output | Isolated, OC Output | No | NONE-Isolated, OC Output |
| Communication Connector | B4B-PH | RJ11 | RJ11 |
| Communication Interface | RS232 | RS232 | RS232 |
| Encoder Feedback | A, B (Single-ended) | A+, A-, B+, B- (Differential) | A, B (Single-ended) |
| Size (mm) | 86×55.5×20.5 | 116×69.2×26.5 | 116×69.2×26.5 |
| Weight (g) | 100 | 210 | 212 |
| Powering Motors | 18 to 30 VDC brush DC servo motors with single-ended encoder, power up to 90W | 18 to 80 VDC brush DC servo motors with differential encoder, power up to 400W | 18 to 80 VDC brush DC servo motors with single-ended encoder, power up to 400W |

Specifications

• DCS810

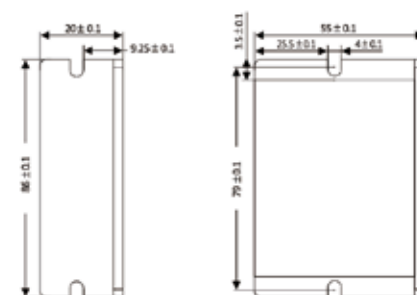


Notes:

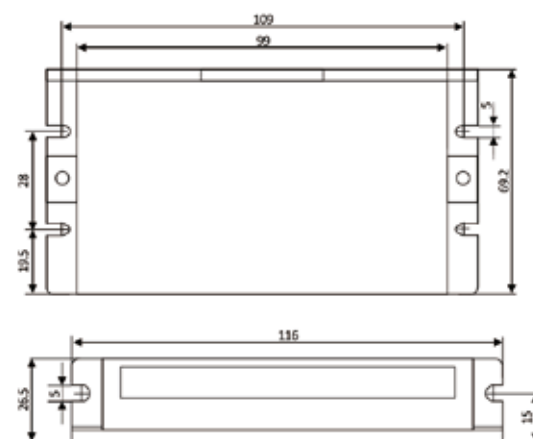
* Series connect resistors R for current-limiting when +12V or +24V single-ended control signals are used. R=1K (Power>0.25W), if Vcc=12 V, and R=2K (Power>0.25W), if Vcc=24 V.

Typical connection

• DCS303



• DCS810



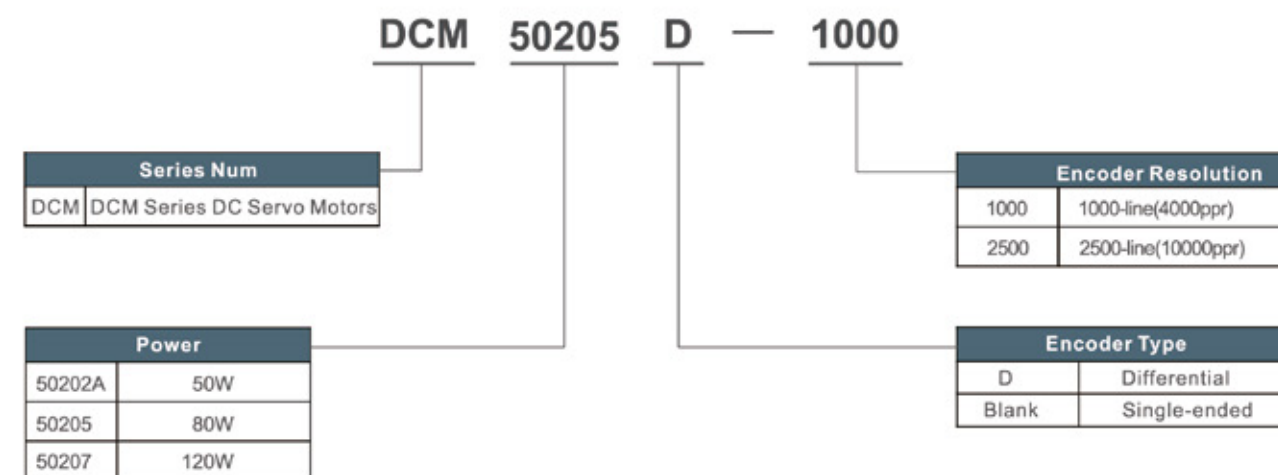
DCM Series Brushed Servo Motors



DCM series brushed DC servo motors are made at industrial quality and have been adopted by hundreds of OEM clients in the world such as CNC machinery, Inkjet printers, plotters, screen printing, lab automation etc. Leadshine DCM brushed servo motors are integrated with standard 500-line or 1,000-line (standard) incremental encoders. The frame sizes are available in 54 mm (compatible with Pittman 14000 series), or standard NEMA 23.

- Available power in 50W, 80W and 120W
- Integrated 1,000-line differential-ended encoders. 500-line optional.
- 54 mm framesize compatible with Pittman 14000 series; NEMA 23 optional

Part Numbers



Specifications

| Parameters | Units | DCM50202A | DCM50205 | DCM50207 |
|-------------------------|--------------------------------------|-----------------------|-----------------------|-----------------------|
| Rated Voltage | VDC | 24 | 24 | 30.3 |
| Rated Power | W | 50 | 80 | 120 |
| Continuous Torque (Max) | Nm | 0.15 | 0.25 | 0.35 |
| Peak Torque (Stall) | Nm | 0.76 | 1.59 | 2.90 |
| No-load Speed | RPM | 4600 ± 10% | 4000 ± 10% | 3600 ± 10% |
| Rated Speed | RPM | 3500 | 3400 | 2900 |
| Rated Current | A | 1.79 | 2.95 | 3.94 |
| Peak Current (Stall) | A | 13.9 | 21.6 | 32.6 |
| No-load Current | A | 0.45 | 0.5 | 0.45 |
| Torque Constant | Nm/A | 48 × 10 ⁻³ | 52 × 10 ⁻³ | 80 × 10 ⁻³ |
| Rotor Inertia | Kg·m ² × 10 ⁻⁵ | 1.62 | 3.11 | 4.73 |
| Winding Temperature | °C | 155 (Max) | 155 (Max) | 155 (Max) |
| Thermal Impedance | °C/watt | 9.00 | 7.30 | 4.98 |
| Encoder Resolution | Line | 500/1000 optional | 500/1000 optional | 500/1000 optional |
| Length (Plus Encoder) | mm | 129 ± 2 | 161 ± 2 | 196 ± 2 |
| Weight (Plus Encoder) | g | 694 | 1182 | 1338 |

Encoder Specifications & Connections

The rated voltage of the Encoders come with the DCM series motors is 5VDC, and it consumes 50mA(max). The DCM5xxxx-1000 motor comes with a 1000-line encoder, and the DCM5xxxx-500 motor comes with a 50-line encoder. The Z (Index) signal is NOT offered by standard models, please contact Leadshine if an encoder with Z (Index) signal is required.

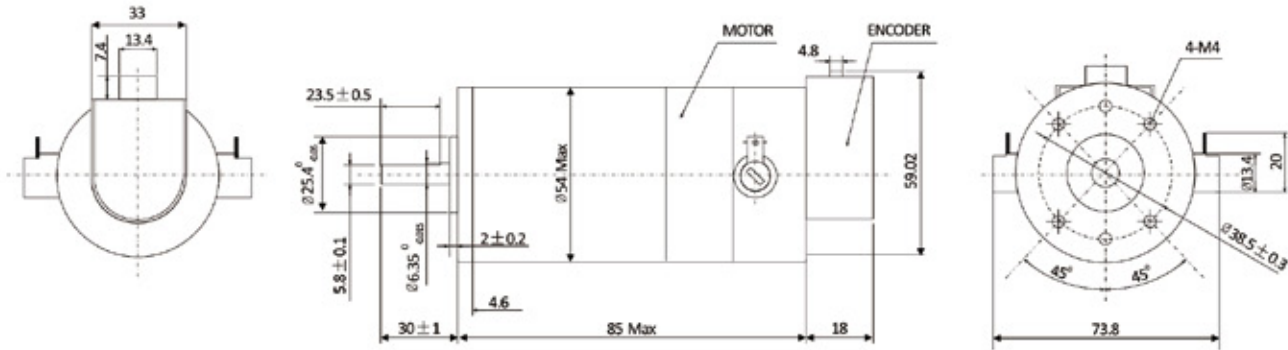
Encoder Connections

| Connections of a single-ended encoder | | | Connections of a differential encoder | | |
|---------------------------------------|------------|---------------------------------------|---------------------------------------|------------|---------------------|
| Pin | Wire Color | Connection (DCS303, DCS810S / DCS810) | Pin | Wire Color | Connection (DCS810) |
| 1 | Blue | Channel B (EB / EB+) | 1 | Black | Channel A+ (EA+) |
| 2 | Yellow | Channel A (EA / EA+) | 2 | Blue | Channel A- (EA-) |
| 3 | Red | VCC (E+5V / E+5V) | 3 | Yellow | Channel B+ (EB+) |
| 4 | Black | Ground (EGND / EGND) | 4 | Green | Channel B- (EB-) |
| 5 | Green | Index / NC (NC / NC) | 5 | Red | VCC (E+5V) |
| | | | 6 | White | Ground (EGND) |

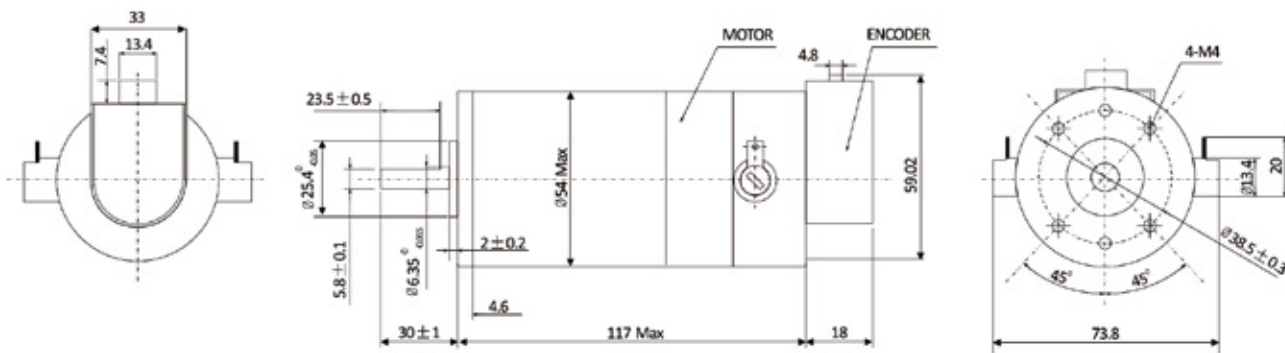
Technical drawing:

[mm]

DCM50202A



DCM50205



DCM50207

