



# ACM Series

## Brushless AC Servo Motors



### Product Description

The ACM series AC servo motors offer high performance with wide output range from 100W to 1.5 kW\*. 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 Leadshine ACS series servo drivers, the

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

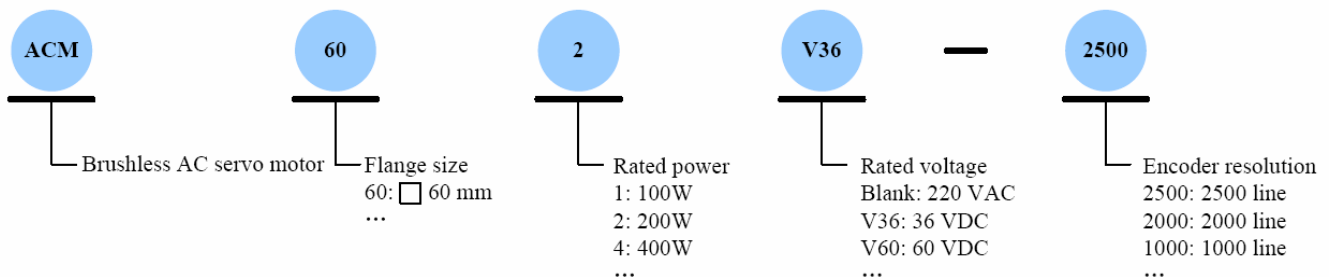
### Features

- High performance (Smooth operation, High precision and Low noise)
- Cost-effective
- 0.64 to 1.27 N-m (90.62 to 179.83 oz-in) 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

### Naming Rules for ACM Series Servo Motors



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

**ACM Series Servo Motor Specifications**

Parameters	Unit	ACM602V36	ACM602V60	ACM604V60	ACM604
Rated Voltage	V	36	60	60	220
Rated Power	W	200	200	400	400
Rated Torque	N.M	0.64	0.64	1.27	1.27
Peak Torque	N.M	1.91	1.91	3.82	3.82
Rated Speed	RPM	3000	3000	3000	3000
Peak Speed	RPM	5000	5000	5000	5000
Rated armature current	A	12	7	14	2.8
Instantaneous maximum armature current	A	34	22	44	8.5
Torque Constant	N.M/A	0.058	0.097	0.097	0.49
Back EMF Constant	V/RPM	$2.03 \times 10^{-3}$	$3.4 \times 10^{-3}$	$3.4 \times 10^{-3}$	$17 \times 10^{-3}$
Resistance	ohm	71.5	181	80.5	1425
Inductance	mH	0.174	0.49	0.28	6
Inertia	$\text{Kg}m^2 \times 10^{-4}$	0.296	0.296	0.3549	0.3549
Allowable radial load	N	245 (Max)	245 (Max)	245 (Max)	245 (Max)
Allowable axial load	N	68 (Max)	68 (Max)	74 (Max)	74 (Max)
Flange size	mm	60	60	60	60
Motor Length	mm	100.7	100.7	127.8	127.8
Pole Pairs	-	4	4	4	4
Mass	Kg				
Encoder Resolution	line	2500	2500	2500	2500
Ambient Temperature	°C	0~40	0~40	0~40	0~40

**Mechanical Specifications**

Mechanical specification of the ACM601V36 motor (plus encoder) is shown as Figure 1.

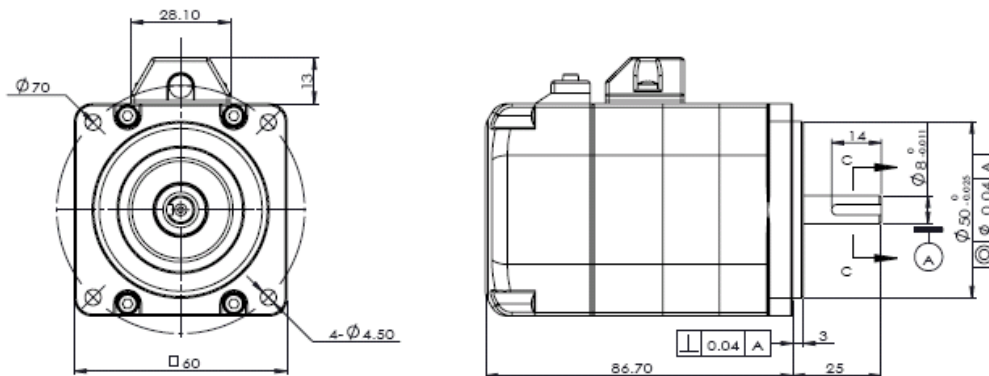


Figure 1: Mechanical specification of the ACM601V36 motor (plus encoder)

Mechanical specification of the ACM602V36 and ACM602V60 motors (plus encoder) is shown as Figure 2.

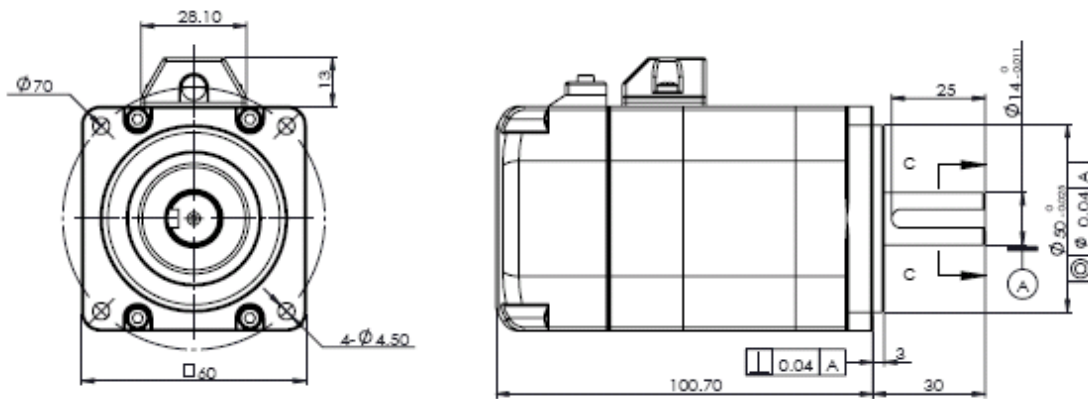


Figure 2: Mechanical specification of the ACM602V36 and ACM602V60 motors (plus encoder)

Mechanical specification of the ACM604V60 and ACM604 motors (plus encoder) is shown as Figure 3.

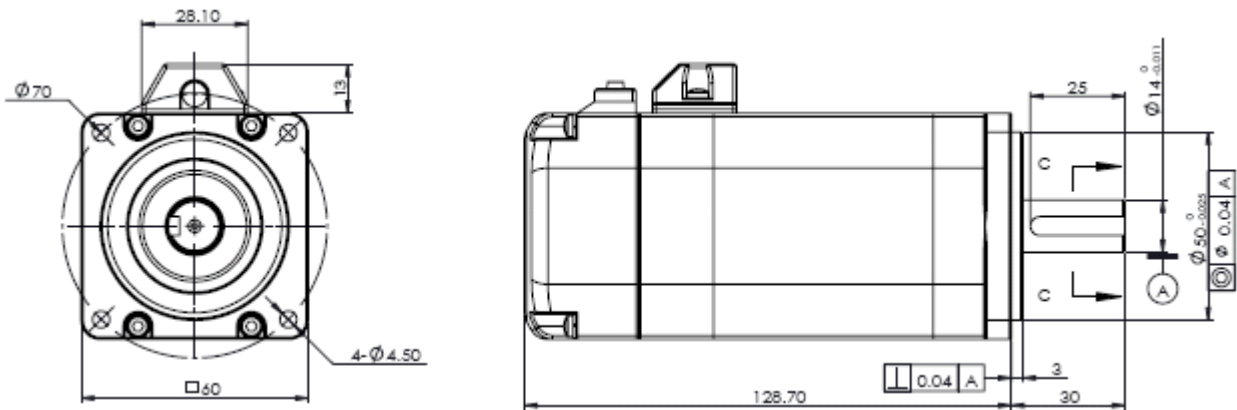


Figure 3: Mechanical specification of the ACM604V60 and ACM604 motors (plus encoder)

### Order Information

Model	Description
<b>ACS806</b>	Recommended Leadshine ACS806 fully digital servo driver. Input voltage: 24~80VDC; Continuous output current up to 6A; Peak current: 18A; Suitable for 100W~400W servo motors (24~80VDC)
<b>ProTuner</b>	Professional Windows based servo tuning software for ACS series fully digital servo drivers.
<b>STU-AC</b>	Small servo tuning unit for ACS series fully digital servo drivers.
<b>ACM601V36</b>	ACM601V36 servo motor, Rated Voltage: 36VDC, Rated Power: 100W
<b>ACM602V36</b>	ACM602V36 servo motor, Rated Voltage: 36VDC, Rated Power: 200W
<b>ACM602V60</b>	ACM602V60 servo motor, Rated Voltage: 60VDC, Rated Power: 200W
<b>ACM604V60</b>	ACM604V60 servo motor, Rated Voltage: 60VDC, Rated Power: 400W
<b>ACM604</b>	ACM604 servo motor, Rated Voltage: 220VAC, Rated Power: 400W



### Typical Connections

A typical connection with Leadshine ACS806 fully digital servo driver is shown as Figure 4.

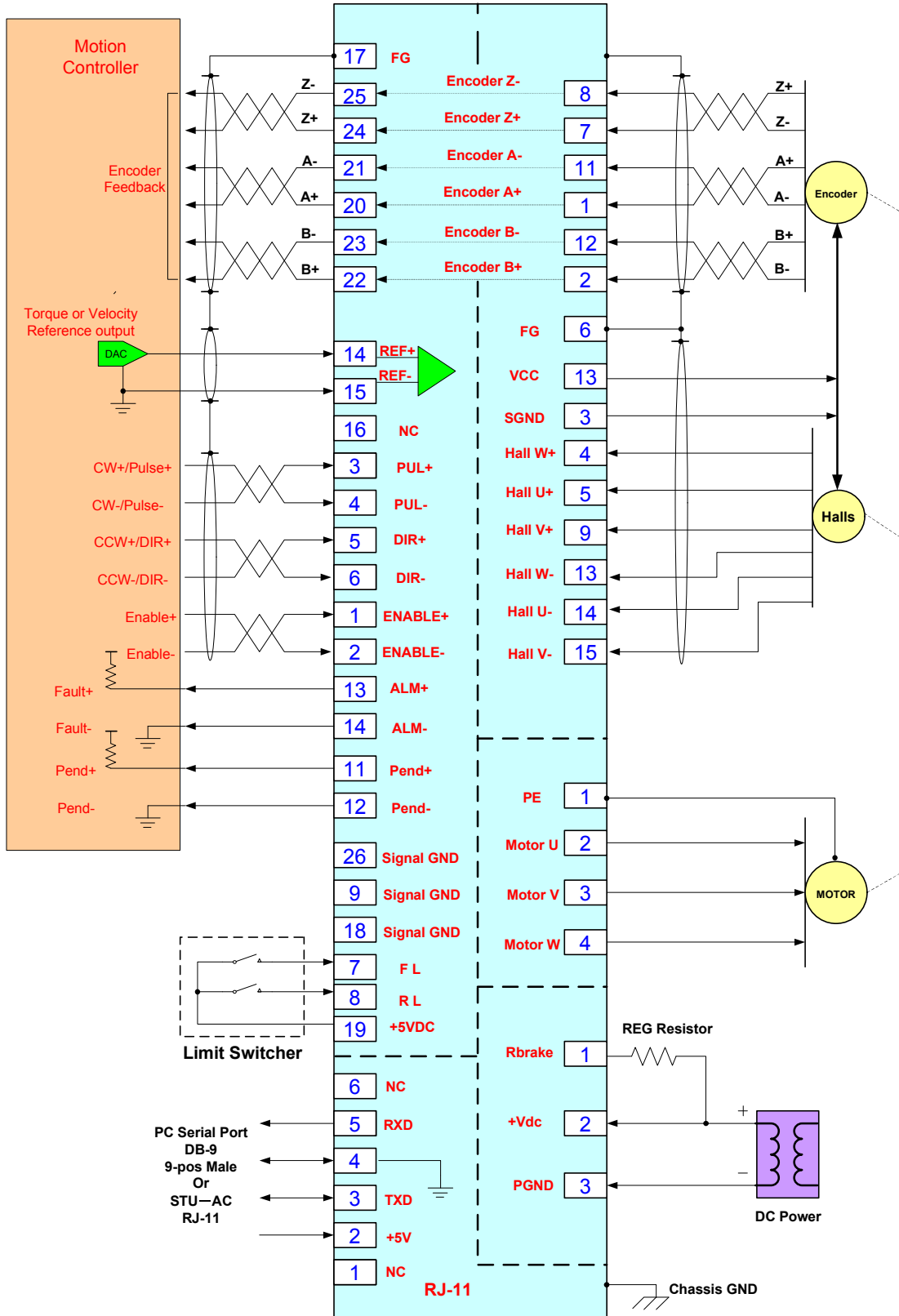


Figure 4: Typical connection with Leadshine ACS806 fully digital servo driver