

# EM882S

# Stepper Motor Driver



## Digital Driver Model EM882S

Digital Technology, max. 80 VDC/ 8.2 A



### Product Description:

The EM882S is a new digital stepper drive based on Leadshine's widely implemented DM stepper drives (over 10 million units in the market). While retaining features of simple design, easy setup, high precision and reliability, Leadshine has also upgraded it by adopting the latest stepper control technology and added additional advanced features for better torque (10 - 25 %), quicker response time, control command smoothing, motor selector, etc.

The EM882S is able to power 2 phase and 4 phase stepper motors smoothly with very low motor heating & noise. It can take +20 up to +80 VDC supply voltage and output 0.5 to 8.2 A current. All the micro step and output current configurations and motor model selection can be easily done via built in DIP switches. Therefore, the EM882S is an ideal choice for many applications requiring simple step & direction or CW/ CCW control of NEMA 23, 24 and 34 stepper motors.

### Features:

- Anti-Resonance for optimal torque, extra smooth motion, low motor heating and noise
- Supply voltage +20 to +80 VDC
- Eight different output current settings of 2.1 - 8.2 A via DIP Switches, or 0.5 - 8.2 A via software (increase of 0.1 A)
- Idle current reduction to 50 % or 90 % selection via SW4
- Step & direction (PUL/ DIR) or CW/ CCW (double pulse) control
- Pulse input frequency up to 200 kHz
- Configurable control command smoothing for reducing motor vibration
- Microstep resolution of 16 setting of 400 - 51,200 via DIP switches, or 200 - 51,200 via software (increments of 200)
- Smooth motor start-up without "jump"
- Fault output
- Over-voltage and over-current protections
- Auto-tuning and model selection for matching a wide range of stepper motors
- Sensorless stall detection (function in beta status; no substitute for closed loop systems)

### Electrical Specifications:

Parameters	Min	Typ.	Max	Unit
Output current	0.5	-	8.2 (5.9 RMS)	A
Supply voltage	+20		+80	VDC
Logic signal current	7	10	16	mA
Pulse input frequency	0	-	200	kHz
Insulation resistance	500			MΩ

### Further Specifications:

Parameters	Min	Typ.	Max
Microsteps/ 1,8°	200 (Full-step)		51,200
Pulse/ Direction (PUL/ DIR)		X	
Double pulse (CW/ CCW)		X	
NEMA sizes	23		34
Motor type Mecheltron	57BYGH-XXX		86BYGH-XXX

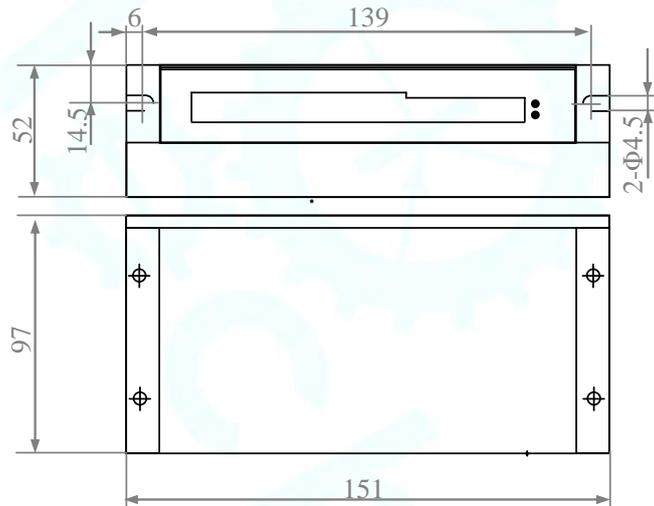
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### Mechanical Specifications:



Unit: mm

### Applications:

The EM882S stepper driver is designed to power 2 phase or 4-phase NEMA 23, 24 and 34 hybrid stepper motors. It can be adopted in many industries (CNC machinery, electronics, medical, automation, packaging...) for applications such as CNC routers, mills, plasma, laser cutters, factory assembly lines, vending machines, etc. Its excellent performance, simple design, and easy setup features make EM882S ideal for many step & direction control type applications.

### Typical Connection Schematic:

A typical system consists of stepper motor, stepper motor driver, power supply and controller (pulse generator). The following image shows a typical connection schematic:

