

DM542EU

Stepper Motor Driver



Digital Driver Model DM542EU



Digital Technology, max. 50 VDC / 4.2 A (PEAK)



Product Description:

The DM542EU is a digital stepper drive with simple design and easy setup. By implementing Leadshine's advanced stepper control technology, this stepper drive is able to power 2-phase and 4 phase stepper motors smoothly with optimal torque and low motor heating & noise. Its operating voltage is 20 – 50 V DC and it can output up to 4.2 A current. All the micro step and output current are done via DIP switches. Therefore, the DM542EU is an ideal choice for applications requiring simple step & direction control of NEMA 17, 23, and 24 stepper motors.

Features:

- Anti-Resonance for optimal torque, extra smooth motion, low motor heating and noise
- Motor auto-identification and parameter auto-configuration for optimal torque from wide-range motors
- Step & direction (PUL/DIR) control
- Multi-Stepping for smooth motor movement
- Optically isolated inputs
- Input voltage 20 – 50 V DC
- 16 selectable micro-step resolutions of 400 - 25.600 via DIP switches
- 8 selectable output current settings of 1.0 - 4.2A via DIP switches
- Soft-start with no "jump" when powered on
- Pulse input frequency up to 200 KHz.
- Automatic idle-current reduction
- Protections for over-voltage and over-current

Electrical Specifications:

Parameters	Min	Typ.	Max	Unit
Output current	1.0	-	4.2 (3.0 RMS)	A
Supply voltage	20	24 - 48	50	V DC
Logic signal current	7	10	16	mA
Pulse input frequency	0	-	200	kHz
Minimal pulse width	2.5			µs
Minimal direction setup	5.0			µs
Insulation resistance	500			MΩ

Further Specifications:

Parameters	Min	Typ.	Max
Microsteps / 1,8 °	400		25.600
Pulse / Direction (PUL / DIR)		X	
NEMA sizes	17		24
Motor type Mecheltron	42BYGH-XXX		60BYGH-XXX

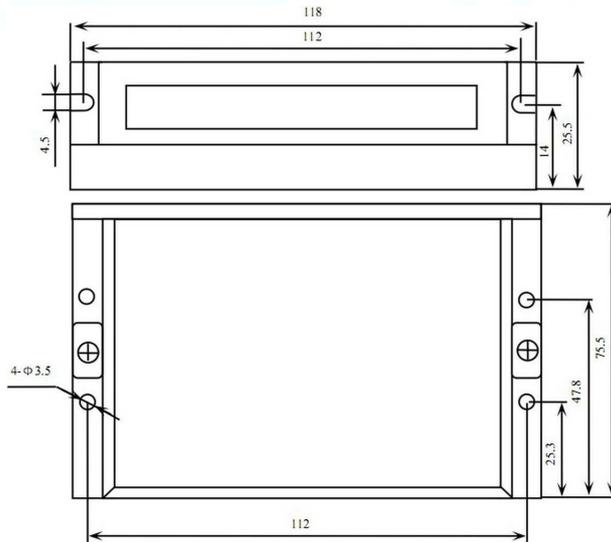
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Mechanical Specifications:



Unit: mm [inch]

Applications:

Suitable for a wide range of stepper motors of NEMA sizes 17, 23 and 24 (42 x 42 mm to 60 x 60 mm). It can be used in various kinds of machines, such as X-Y tables, engraving machines, labeling machines, laser cutters, pick-place devices, and so on. Particularly well suited for applications where low noise levels, less heat development, high speed and high precision are desired.

Typical Connection Schematic:

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

