



AM306245R2MMGEVB: Motor Module I²C Stepper Driver NQFP Evaluation Board

The AM306245R2MMGEVB Motor Module holds a stepper motor driver IC with position controller and control/diagnostics interface integrated on one small PCB. This is available in a size to fit on a NEMA16 stepper motor. The Motor Module receives high level positioning instructions through the I²C interface and subsequently drives the motor until the desired position is reached. This high abstraction level of commands reduces the load of the processor on the master side. The position controller is configurable for different motor types, positioning ranges and parameters for speed, acceleration, deceleration, hold current, safe position. Six OTP bytes are available to set default values, and can be overruled by values programmed through the I²C bus. The Motor Module can be programmed to detect and act on mechanical blocking of the rotor. The AM306245R2MMGEVB Motor Module acts as a slave on the serial bus and the master can fetch specific status information like actual position, error flags, etc. from each individual slave node.



Note: This board must be used with the [AMIS3062XGEVK Industrial Stepper Motor Driver Kit](#).

Features and Applications

Features

- Microstepping (1/2, 1/4, 1/8 and 1/16)
- Programmable peak current up to 800mA
- 20kHz PWM current control
- Automatic selection of fast and slow decay mode
- 8V - 29V supply voltage
- Full diagnostic and status information
- Position controller
- Programmable blocked rotor detection (stall detection)
- Configurable speed, acceleration and deceleration
- Programmable hold current down to zero
- Programmable safe position
- Customized default setting in non-volatile memory (OTP)
- Over-current protection
- Extended under-voltage management
- High-temp warning and shutdown
- Low-temp warning
- Detection of open and shorted coils
- Management of safe position
- 2-wire I²C serial interface
- 5V microcontroller compatible
- Up to 32 node addresses
- Power drivers with slope control
- Programmable PWM frequency
- Programmable PWM jitter
- -40°C - +125°C

Applications

- Industrial equipment
- Building automation
- Multiple axes applications
- Small positioning applications

Evaluation/Development Tool Information

Product	Status	Compliance	Short Description	Parts Used	Action
AM306245R2MMGEVB	Active	Pb-free	Motor Module I ² C Stepper Driver NQFP Evaluation Board	AMIS30624C6245RG	» Contact Local Sales Office » Inventory

Technical Documents

Type	Document Title	Document ID/Size	Rev
Eval Board: BOM	AM306245R2MMGEVB Bill of Materials ROHS Compliant	AM306245R2MMGEVB_BOM_ROHS.PDF - 154.0 KB	0
		AM306245R2MMGEVB_GERBER.ZIP - 568.0 KB	0

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Eval Board: Schematic	AM306245R2MMGEVB Schematic	AM306245R2MMGEVB_SCHEMATIC.PDF - 167.0 KB0

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