

Product Overview

AMIS-30624: Microstepping motor driver and controller with I2C bus and stall detection

For complete documentation, see the data sheet.



The AMIS-30624 is a single chip microstepping motor driver with a position controller and control/diagnostic interface. It is ready to build intelligent peripheral systems where up to 32 drivers can be connected to one I2C master. This significantly reduces system complexity. The device receives positioning instructions through the bus and subsequently drives the stator coils so the two-phase stepper motor moves to the desired position. The on-chip position controller is configurable (OTP or RAM) for different motor types, positioning ranges and parameters for speed, acceleration and deceleration. Micro-stepping allows silent motor operation and increased positioning resolution. The advanced motion qualification mode enables verification of the complete mechanical system in function of the selected motion parameters. The AMIS-30624 can easily be connected to an I2C bus where the I2C master can fetch specific status information like actual position, error flags, etc. from each individual slave node. An integrated sensorless stall detection stops the motor when running into stall. This enables silent, yet accurate position calibrations during a referencing run and allows semi-closed loop operation when approaching the mechanical end-stops. The device is implemented in I2T100 technology, enabling both high voltage analog circuitry and digital functionality on the same chip. The AMIS-30624 is fully compatible with the automotive voltage requirements.

Features

- Sensorless stall detection
- Peak current up to 800mA
- Fixed frequency PWM current-control
- Position controller
- Configurable speeds and acceleration
- Bi-directional 2-wire bus for inter-IC control
- Field programmable node addresses
- Over-current protection
- Under-voltage management
- High voltage outputs with slope control

For more features, see the data sheet

Applications

- Automotive
- Surveillance
- Building automation

- Processing

- Distribution

End Products

- HVAC and headlamp leveling and bending actuators
- Camera positioning
- HVAC, air-duct valves, radiator water-flow valves, green-house thermal management, venetian blinds
- Robots, inspection tools, assembly, testing tools, dispensers, valves, pumps, feeders, printers
- Vending machines, sorting machines, warehouse automation

For more information please contact your local sales support at www.onsemi.com.

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