

Product Overview

AMIS-30623: Microstepping Motor Driver and Controller with LIN Bus and Stall Detection

For complete documentation, see the data sheet.



The AMIS-30623 is a single-chip microstepping motor driver with position controller and control/diagnostic interface. It is ready to build dedicated mechatronics solutions connected remotely with a LIN master. The device receives positioning instructions through the bus and subsequently drives the motor coils 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. The advanced motion qualification mode enables verification of the complete mechanical system in function of the selected motion parameters. The AMIS-30623 acts as a slave on the LIN bus and the master can fetch specific status information like actual position, error flags, etc. from each individual slave node. An integrated sensorless step-loss detection prevents the positioner from losing steps and 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 chip is implemented in I2T100 technology, enabling both high voltage analog circuitry and digital functionality on the same chip. The AMIS-30623 is fully compatible with the automotive voltage requirements.

Features

- Sensorless step-loss detection
- Automatic selection of fast and slow decay mode
- No external flyback diodes required
- Configurable speeds and acceleration
- Field programmable node addresses
- Dynamically allocated identifiers
- Both physical and data-link layers (conform to LIN rev. 1.3)
- LIN bus short circuit protection to supply and ground
- High temp warning and management
- Lost LIN safe operation

For more features, see the data sheet

Applications

- Automotive
- Surveillance
- Building automation

- Distribution

- Machine tools

End Products

- HVAC and headlamp leveling and bending actuators
- Camera positioning
- HVAC, air-duct valves, radiator water-flow valves, greenhouse 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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