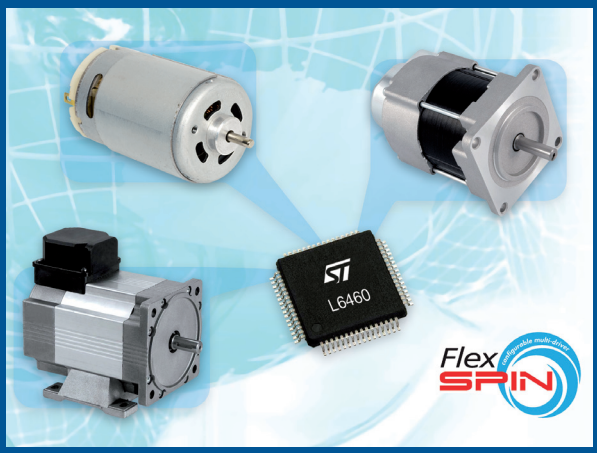
FlexSPIN™
Easy flexible multi-motor driver

Monolithic SPI fully-configurable multi-motor driver for DC and stepper motors with micro-stepping



The L6460 FlexSPIN motor driver is able to control and power multi-motor systems, through simultaneous management of stepper and DC motors.

A number of features can be configured through the digital interface (SPI), including 3 voltage regulators, 1 high precision A/D converter, 2 operational amplifiers and 14 configurable GPIOs.

The highly flexible L6460 may be configured as two half bridges or one full bridge to work as a power stage featuring additional voltage buck regulators.

Key features

- 4 full-bridge drivers configurable for:
  - 1 stepper motor and 2 DC motors
  - 4 DC motors
- Each bridge configurable as:
  - 2 independent half bridges, 1 super half bridge, 2 power switches
- Fully integrated microstepping
- 16 bit SPI interface
- 3 to 5 embedded voltage regulators featuring full power-supply management
- Programmable watchdog function
- Integrated power sequencing and supervisory functions with fault signaling through serial interface and external reset pin
- Very low power dissipation in shutdown mode (35 mW)
- Full set of embedded diagnostic and protection functions
- Thermal shutdown and warning
- Multi-channel 9-bit ADC
- 2 operational amplifiers
- Digital comparator
- 2 low-voltage power switches
- 3 general-purpose PWM generators
- 14 GPIOs
- TQFP64 exposed pad package

Targeted applications

- Industrial
  - ATM, POS
  - Security
  - Factory automation
  - Medical equipment
  - Textile machines
  - Vending machines
- Computers and peripherals
  - Printers
- Consumer
  - Digital still cameras
  - Game consoles
  - Gambling machines

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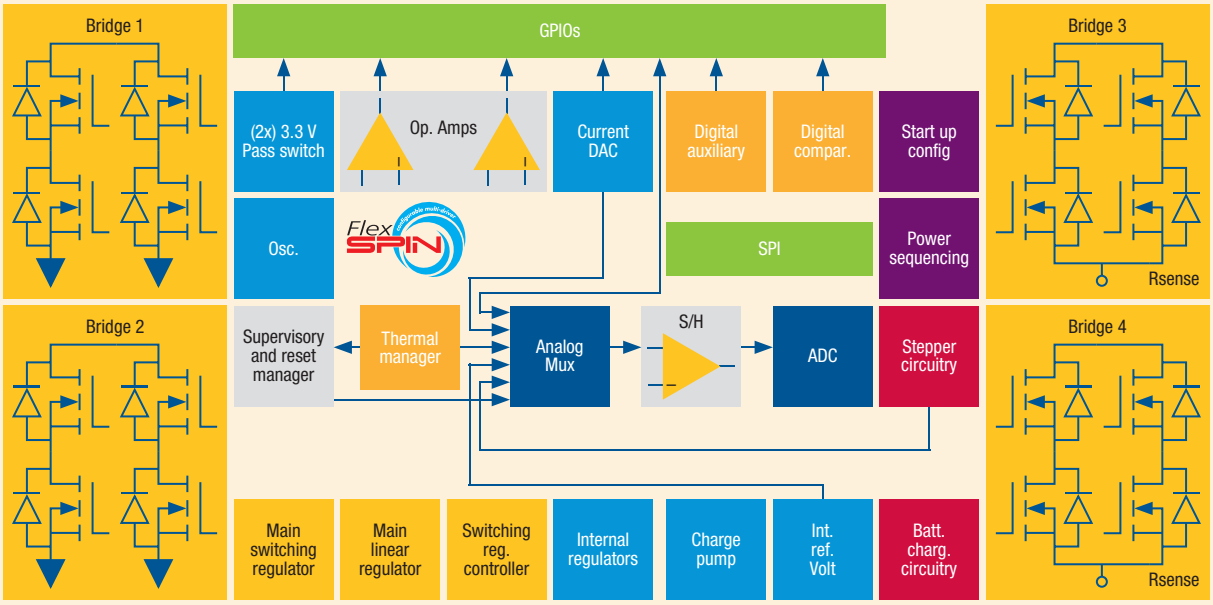
Block diagram



The L6460 flexSPIN motor driver, using mixed-signal DMOS power technology, is optimized to control and drive multi-motor systems, so providing a unique level of integration in terms of control, power and auxiliary features. Its high configurability allows the L6460 to be customized to drive different motor architectures and to optimize the number of embedded features, such as the voltage regulators, the high-precision A/D converter, the op-amp and the voltage comparators. Its ability to drive simultaneously stepper and DC motors makes the L6460 the ideal solution for all applications featuring multi motors.

FlexSPIN product table

Order codes	Package	Packing	Operating voltage (V)	Evaluation software	Evaluation boards
L6460	TQFP64	Tray	13 to 38	Free download on www.st.com/flexspin	EVAL6460 (flexSPIN evaluation board) EVAL_IBU-STR7 (microcontroller board)
L6460TR	TQFP64	Tape and reel	13 to 38		

For more information on ST products and solutions,
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Order code: FLFLEXSPIN0210