

# Motor drivers: Integration, performance, efficiency leading in motion control



## Open, scalable, flexible solutions answer to every challenge of motor control, ensuring fast and easy design

Designing motor control applications becomes much easier with the outstanding performance, features and support of ST's complete portfolio of motor drivers: dSPIN, flexSPIN, easySPIN and powerSPIN families. These products are scalable, reliable and cost effective. They are designed with an extensive diagnostics capability, and are also fully robust and protected. Multi-package options address a variety of design challenges such as space and thermal constraints.

### KEY FEATURES

- Multi-package options to cover a variety of design requirements from board space constraints to thermally challenging environments
- Easier development with reference designs, evaluation boards and a development environment which includes thermal analysis
- Extensive diagnostic capability, robust and fully protected to further reduce the number of external components, the cost and complexity
- Wide operating voltage, current and temperature ranges supporting most application needs

### KEY APPLICATIONS

- Vending machines
- Point of sale (POS)
- Automatic Teller machines (ATM)
- Security cameras
- Stage lighting
- Printers
- Industrial robotics
- Industrial automation
- Textile equipment



## LEADING IN MOTOR CONTROL DESIGN

powerSPIN: Integrated PWM controller and DMOS bridge for brush DC, bipolar stepper and permanent-magnet 3-phase brushless motors, offering non-dissipative overcurrent detection.

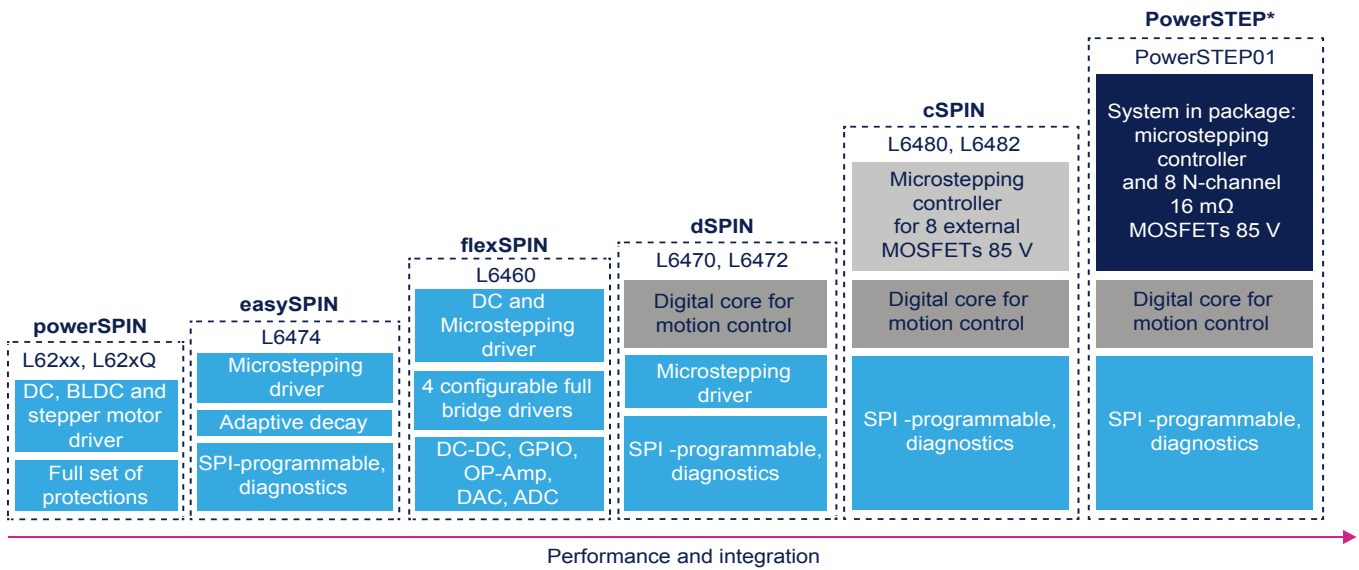
easySPIN: Best trade-off between performance and cost for microstepping applications. No external shunts required due to an innovative current-mode scheme.

FlexSPIN: Highly integrated for cost-driven applications such as printers. Controls and drives multi-motor applications (stepper and DC simultaneously) or inverter stages with its 4 fully-configurable full-bridge drivers.

dSPIN: New state-of-the-art platform for stepper motor drives, a quantum leap in micro-stepping. Substitutes expensive DSP, analog and power components with a single IC. Its fully-digital motion engine with SPI interface controls the stepper motor with up to 128 microsteps, and the innovative voltage-mode technique allows for unprecedented motion smoothness.

cSPIN: SPI advanced controller for stepper applications up to 85 V, providing fully digital control of the motion through speed profile generation and positioning calculations. It integrates a dual full bridge gate driver for external MOSFETs with embedded non-dissipative overcurrent protection.

powerSTEP: system in package integrating 8 N-channel 16 mΩ MOSFETs for stepper applications up to 85 V with a SPI programmable controller, providing fully digital control of the motion through speed profile generation and positioning calculations.



\* coming soon

