

# TI's new evaluation platform drives three-phase brushless motors

Texas Instruments Incorporated (TI) today introduced a complete motor control evaluation kit for spinning brushless DC (BLDC) and permanent magnet synchronous (PMSM) motors. The DRV8312-C2-KIT is a high-performance, power-efficient and cost-effective sensorless field-oriented control (FOC) and trapezoidal commutation platform. It spins motors out of the box, speeding development of sub-50-V and 6.5-A brushless motors for driving medical pumps, gates, lifts and small pumps, as well as industrial and consumer robotics and automation. For more information or to place an order, visit [www.ti.com/drv8312-c2-kit-pr](http://www.ti.com/drv8312-c2-kit-pr) [1].

### Key features and benefits:

- **Out-of-the-box motor control and driver solution** includes the [DRV8312 motor driver](#) [2], a 32-bit [C2000™ Piccolo™ microcontroller](#) [3] (MCU) controlCARD module, a quick-start graphical user interface, full development source code, [Code Composer Studio™ \(CCStudio\) integrated development environment \(IDE\)](#) [4] and a three-phase BLDC motor.
- **Flexible control platform** that supports sensorless FOC, and sensorless and sensed trapezoidal commutation control for rapid evaluation and development of three-phase motors. By adding a separate shaft encoder, the DRV8312-C2-KIT can also support sensed FOC.
- **DRV8312 three-phase, fractional-horsepower motor driver** provides the highest current output in its class, delivering up to 6.5 A, without the need for a costly external heat sink. The [DRV8312 motor driver](#) [2] is robust, reliable and fully protected with cycle-by-cycle over-current, over-temperature, cross-conduction and under-voltage protection, reducing design complexity and board space, and ensuring higher system reliability.
- **C2000 Piccolo MCU** performs control, communications, and debug functions. The industry-leading 32-bit [C2000 MCU](#) [3] integrates the most advanced analog feedback, digital control peripherals and CPU capability in an embedded MCU device family starting under \$2. This includes access to the most thorough set of motor control software modules, real-time debug capabilities, and open-tooled reference designs via free [controlSUITE™ software](#) [5].

### Availability and pricing

The [DRV8312-C2-KIT](#) [1] is available now for \$299. This price includes [CCStudio IDE](#) [4] with no compiler or memory limitations. All documentation, software source, and the hardware development package - including bill of materials, schematics, and

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gerbers - is freely available through [controlSUITE](#) [5].

A complete evaluation kit based on the DRV8412 motor driver is also available for spinning brushed DC and stepper motors. The [DRV8412-C2-KIT](#) [6] is priced at \$299.

### Learn more about TI's motor control solutions by visiting the links below:

- Order samples of the DRV8312-C2-KIT: [www.ti.com/drv8312-c2-kit-pr](http://www.ti.com/drv8312-c2-kit-pr) [1].
- See the DRV8312-C2-KIT spin a motor in this short video: [www.ti.com/drv8312-c2-kit-vid-pr](http://www.ti.com/drv8312-c2-kit-vid-pr) [7].
- Ask questions, help solve problems in the Motor Drivers Forum in the TI E2E™ Community: [www.ti.com/e2emotor-pr](http://www.ti.com/e2emotor-pr) [8].
- Check out motor control block diagrams, application notes, videos and selection guides: [www.ti.com/motorcontrol-pr](http://www.ti.com/motorcontrol-pr) [9].

### TI spins motors

TI combines a rich history in [motor drive and control](#) [9], a broad portfolio of analog and microcontroller products and a comprehensive offering of tools, software and support to deliver efficient, reliable, cost-effective motor solutions. Customers can get the right solutions at the right performance level to quickly spin any motor, including AC induction (ACIM), brushed DC (DC), BLDC, PMSM and stepper.

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<http://www.ecnmag.com/products/2011/04/ti%E2%80%99s-new-evaluation-platform-drives-three-phase-brushless-motors>

### Links:

[1] <http://www.ti.com/drv8312-c2-kit-pr>

[2] <http://www.ti.com/drv8312-pr>

[3] <http://www.ti.com/drv8412-c2-pr-c2lp>

[4] [http://focus.ti.com/docs/toolsw/folders/print/ccstudio.html?DCMP=dsp\\_ccs\\_v4&amp;HQS=Other+OT+ccs](http://focus.ti.com/docs/toolsw/folders/print/ccstudio.html?DCMP=dsp_ccs_v4&amp;HQS=Other+OT+ccs)

[5] <http://www.ti.com/drv8412-c2-pr-controlsuite-sw>

[6] <http://www.ti.com/drv8412-c2-kit-pr>

[7] <http://www.ti.com/drv8312-c2-kit-vid-pr>

[8] <http://www.ti.com/e2emotor-pr>

[9] <http://www.ti.com/motorcontrol-pr>