Stellaris® BLDC Motor Control Reference Design Kit (RDK)

The Luminary Micro Stellaris Brushless DC (BLDC) Motor Control Reference Design Kit (RDK-BLDC) with Ethernet and CAN contains all the necessary hardware and software for you to design, develop, and integrate your BLDC motor applications. The RDK-BLDC combines the strength and flexibility of Luminary Micro's Stellaris microcontrollers with Fairchild Semiconductor's power modules to create a sophisticated four-quadrant motor control for three-phase brushless DC motors rated at up to 36 V. Brushless DC motors are particularly suited for use in factory automation, robotics, electric wheelchairs and mobility devices, pumping and ventilation systems, and small appliances.

Kit Contents

The RDK-BLDC ships with everything needed to evaluate BLDC motor control including:

- Main control circuit board
- 3-phase brushless DC motor
- 24 V power supply
- Retractable Ethernet cable
- Debug adapter
- Graphical control program for Windows on CD
- Quickstart Guide, User's Manual, Software Reference Manual, Board Data Sheet, source code, BOM, schematics, and Gerber files on CD


Ordering Information

Product Number	Description
RDK-BLDC	Stellaris® Brushless DC Motor Control Reference Design Kit
MDL-BLDC	Stellaris® Brushless DC Motor Control Board Only

Features

The RDK-BLDC contains Luminary Micro's feature-rich Stellaris LM3S8971 microcontroller with Ethernet and CAN, a three-phase brushless DC motor, a graphical control program for Windows™, and accompanying cables, source code, and documentation. The RDK-BLDC takes advantage of the integrated features of the Stellaris microcontroller and the processing power of the ARM® Cortex™-M3 core to optimally control a wide range of motors in diverse applications. The graphical control program allows you to experiment with varying drive parameters and observe the effect on motor performance.
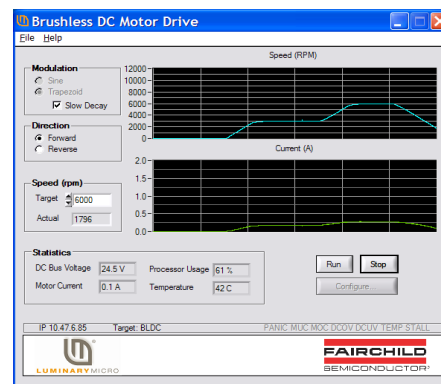
The RDK-BLDC includes the following product features:

- Advanced motor control for three-phase brushless DC motors
- Four quadrant operation
- Hall Effect, Quadrature, and Sensorless operation modes
- Flexible RDK platform accelerates integration process
- On-board braking circuit
- Incremental quadrature encoder input
- Analog and digital control inputs
- Test mode push-button
- Status LEDs indicate Power, Run, and Fault conditions
- Optional power-managed fan for forced-air cooling
- Screw terminals for all power and signal wiring
- JTAG/SWD port for software debugging

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PB-RDKBLDC-00