

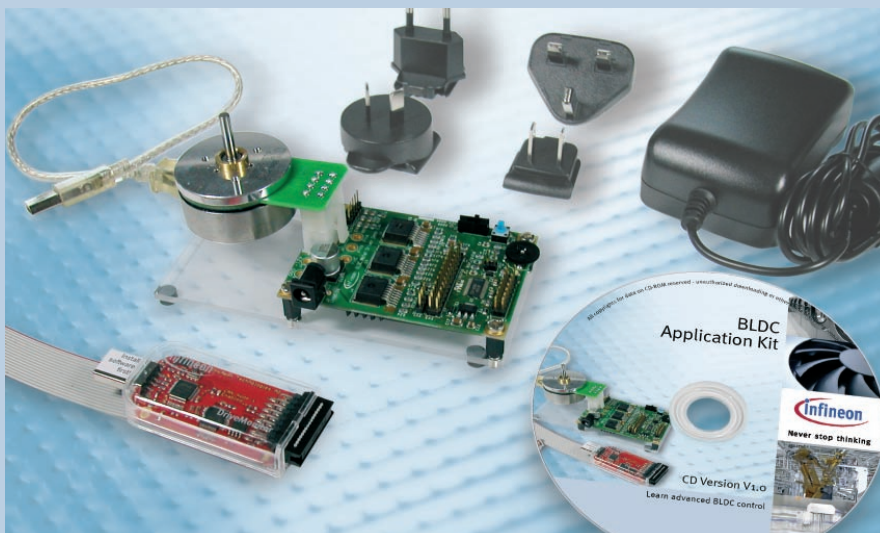
12V – Brushless DC Drive Application Kit

Getting a Step Ahead

LEARNING THE BASICS of brushless DC (BLDC) motors has never been easier. Experienced BLDC designers using traditional “Motor Control ICs” can learn and implement the advanced techniques that make their design more reliable and get more power from existing motors. Apply simple algorithms that increase control flexibility and improve efficiency. With easy to use tutorials designers can experiment with the trade-offs of sensed versus sensorless control and determine which approach is best for their application. After experimenting with the included motor, designers can easily replace it with their own motor to perform real world tests.

The kit is built around the 8-bit XC866 MCU and comes complete with tutorials, reference software, development tools and design files that show how the XC866 may be used to control a BLDC motor. The inverter is made by combining 3 of the NovalithIC™ high current motor drivers each of which provide a complete low ohmic-protected half-bridge in a single package.

A complete microcontroller development environment with tutorials, schematics and Hands-On-Trainings are also included in the kit to ensure that everyone gets a step ahead on their next BLDC motor design.



Ordering Code

- KIT_AK_XC866_BLDC

Key Features

- BLDC motor, inverter, MCU (XC866) and power supply
- Instructional videos on How-to-Use the application kit
- Example software showing sensed, sensor-less, phase-advance and 12-step control methods
- Inverter circuit capable of driving up to 20A BLDC motors
- Free unlimited compiler (SDCC) and hardware debugger (HiTOP)
- Evaluation version of the Keil toolchain
- U-Spy software that displays real-time behavior of the motor on your PC
- DriveMonitor: USB-JTAG + USB-UART bridge enabling flash programming, debugging and monitoring

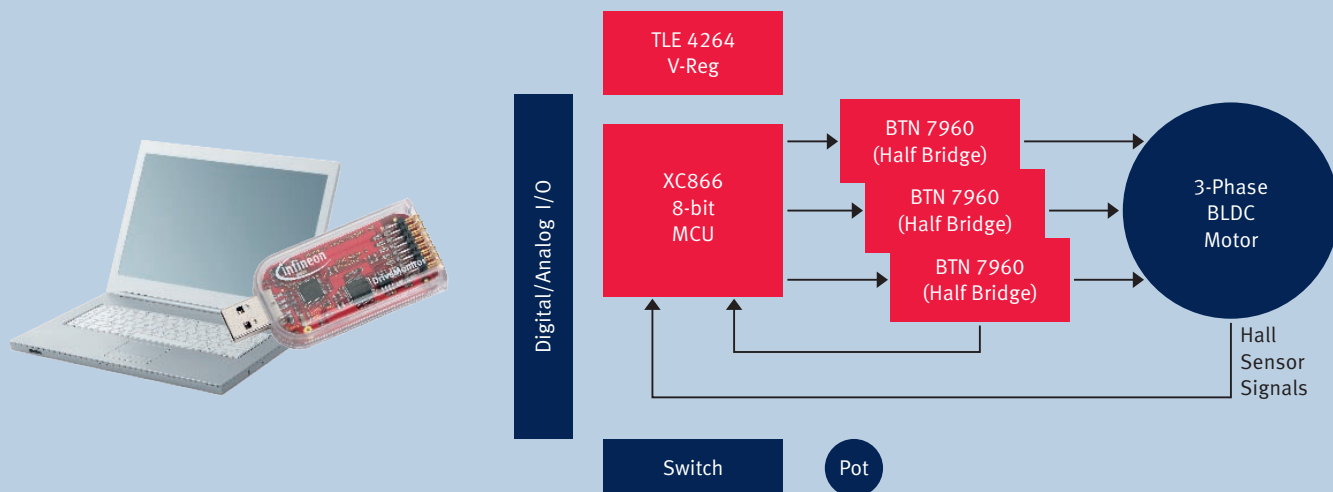
Applications

- Commercial refrigeration compressors
- Pumps/sprayers
- Medical equipment

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Application Kit

Schematic Diagram of the Application Board



8-bit MCU XC866

- Cost effective 8051 based
- On-board flash memory with 4K, 8K or 16K sizes
- 38-pin TSSOP package
- CAPCOM6E unit for flexible PWM generation
- 10-bit ADC with extended functionality (e.g. comparator mode)
- Also available in HOT version for applications up to 140°C

BTN 7960 NovalithIC™ Half-Bridge

- Low path resistance down to 16mΩ
- High-current capability up to 33A
- Low quiescent current of 7μA
- PWM capability up to 25kHz + active freewheeling
- Adjustable slew rate
- Current sense output
- Automatic switched mode current limitation
- Logic level inputs
- Integrated over-/under voltage, over temperature and over current protection

TLE 4264 Voltage Regulator

- 150mA Low-drop
- 5V ±3% (2% up to 50mA)
- Very low current consumption: 40μA
- Over Temperature Protection
- Short-circuit proof
- Reverse polarity proof

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