

# BLDC Motor Control Kit including ATA6833/ATA6834 and ATmega32M1

## Getting Started

### 1. Kit Contents

- 1 BLDC Motor Application Board: ATA6833/ATA6834-DK1
- 1 Display Controller Board: ATA6833/ATA6834-DK2
- 1 Brushless DC Motor Ref: FL42BLS01-001 (3 Phases, 8 Poles, 12 VDC)
- 1 Getting Started Note
- 1 CD-ROM Atmel Products Technical Library

### 2. Prepare Connections

1. Connect the Motor Application Board X5 to the Display Controller Board X5.
2. Connect the motor as indicated in [Table 2-1](#), motor phases (3 thick wires on pin 1 to 3) and Hall sensors (5 thin wires on pin 4 to 8).
3. Connect the Power Supply 12V to X1.

**Table 2-1.** BLDC Application Board Wires

Pin Number	Signal Names on PCB Bottom	Function	Motor Wire	Remark	Direction
1	Ph_A	Motor Phase A	Yellow	Thick wire	Output
2	Ph_B	Motor Phase B	Red	Thick wire	Output
3	Ph_C	Motor Phase C	Black	Thick wire	Output
4	5V	Power 5V	Red	Thin wire	Output
5	HALL_A	Hall A	Blue	Thin wire	Input
6	HALL_B	Hall B	Green	Thin wire	Input
7	HALL_C	Hall C	White	Thin wire	Input
8	GND	Power GND	Black	Thin wire	Output



**ATA6833/  
ATA6834-DK**

**Application Note**



## 3. Operating Menu

### 3.1 Start-up

To start the system, wake up either with negative edge at input pin LIN on the motor board or positive edge on EN2 by pressing EN2 button on the motor board. The Start-up Screen is displayed (see [Figure 3-1](#)).

**Figure 3-1.** Start-up Screen

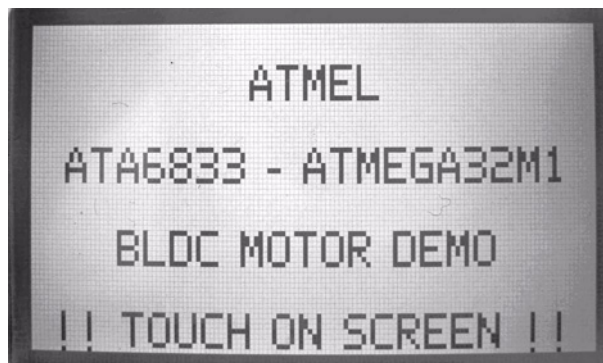


The first line shows the software version. The second line shows the wake-up source, either LIN or EN2. The third line shows the status of the temperature comparator. The fourth line shows the operating voltage, either 5.0V or 3.3V. In the system version 1.0, only 5V operating voltage is supported.

### 3.2 Intro Screen

After 3 seconds, the Intro Screen is displayed (see [Figure 3-2](#)).

**Figure 3-2.** Intro Screen



### 3.3 Operation Screen

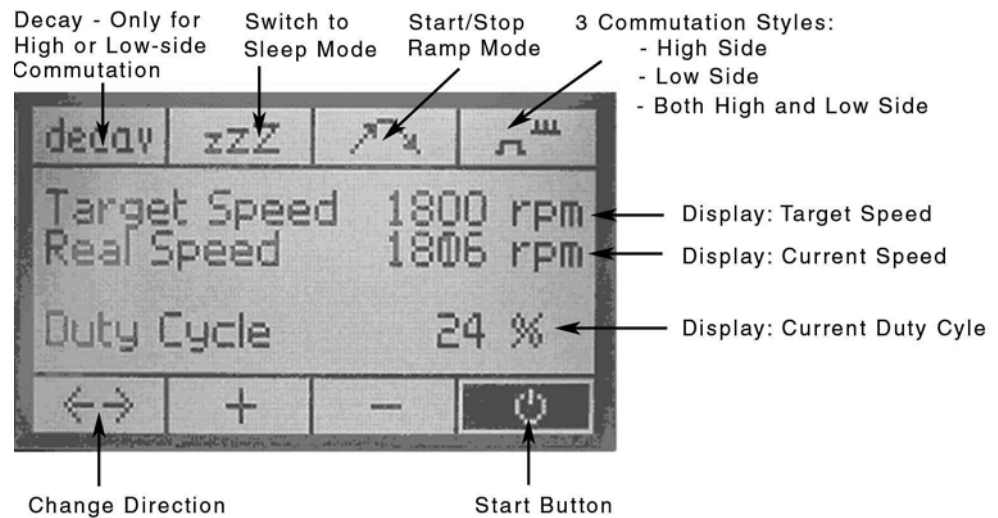
Touch the screen with a touch pen or finger to display the Operation Screen.

The Operation screen is divided in three parts: the top and bottom lines each contain 4 function buttons, the middle part shows the speed and duty cycle values.

Press the start button in the lower right corner to start the motor.

Decay means, during duty off cycle, the decay current flows through the counterpart switch to the by PWM affected switch. The decay mode is only available in High or Low-side commutation mode but not in the simultaneous High and Low-side commutation mode.

**Figure 3-3.** Operating Screen





## Headquarters

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**Atmel Corporation**  
2325 Orchard Parkway  
San Jose, CA 95131  
USA  
Tel: 1(408) 441-0311  
Fax: 1(408) 487-2600

## International

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**Atmel Asia**  
Unit 1-5 & 16, 19/F  
BEA Tower, Millennium City 5  
418 Kwun Tong Road  
Kwun Tong, Kowloon  
Hong Kong  
Tel: (852) 2245-6100  
Fax: (852) 2722-1369

**Atmel Europe**  
Le Krebs  
8, Rue Jean-Pierre Timbaud  
BP 309  
78054  
Saint-Quentin-en-Yvelines Cedex  
France  
Tel: (33) 1-30-60-70-00  
Fax: (33) 1-30-60-71-11

**Atmel Japan**  
9F, Tonetsu Shinkawa Bldg.  
1-24-8 Shinkawa  
Chuo-ku, Tokyo 104-0033  
Japan  
Tel: (81) 3-3523-3551  
Fax: (81) 3-3523-7581

## Product Contact

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**Web Site**  
[www.atmel.com](http://www.atmel.com)

**Technical Support**  
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