



STEVAL-IHM013V1

Demonstration board on low-end vacuum cleaner
based on the ST7FLiteUS5 and BTB12

Data Brief

Features

- AC motor speed regulation system
- High current protection
- Full bag checking
- Start/stop button
- Potentiometer (speed adjustment)
- LED checking
- Sense resistor (current sensing)

Description

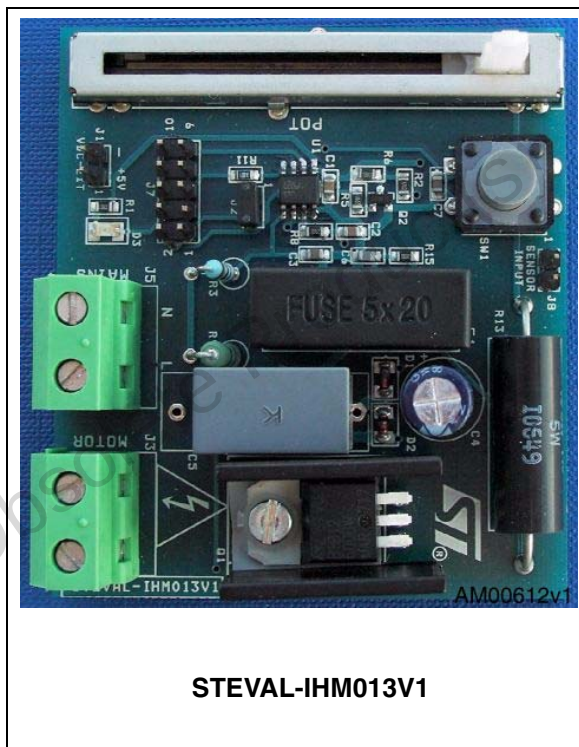
This demonstration board, in terms of hardware and software, is ready to use in the development of universal motor driving based on phase angle control.

This board implements a traditional design solution for a universal motor control circuit with a microcontroller as a driver.

The STEVAL-IHM013V1 has been customized for vacuum cleaner applications, however it can be easily adapted for most home appliance or industrial applications based on phase angle control without speed closed loop control.

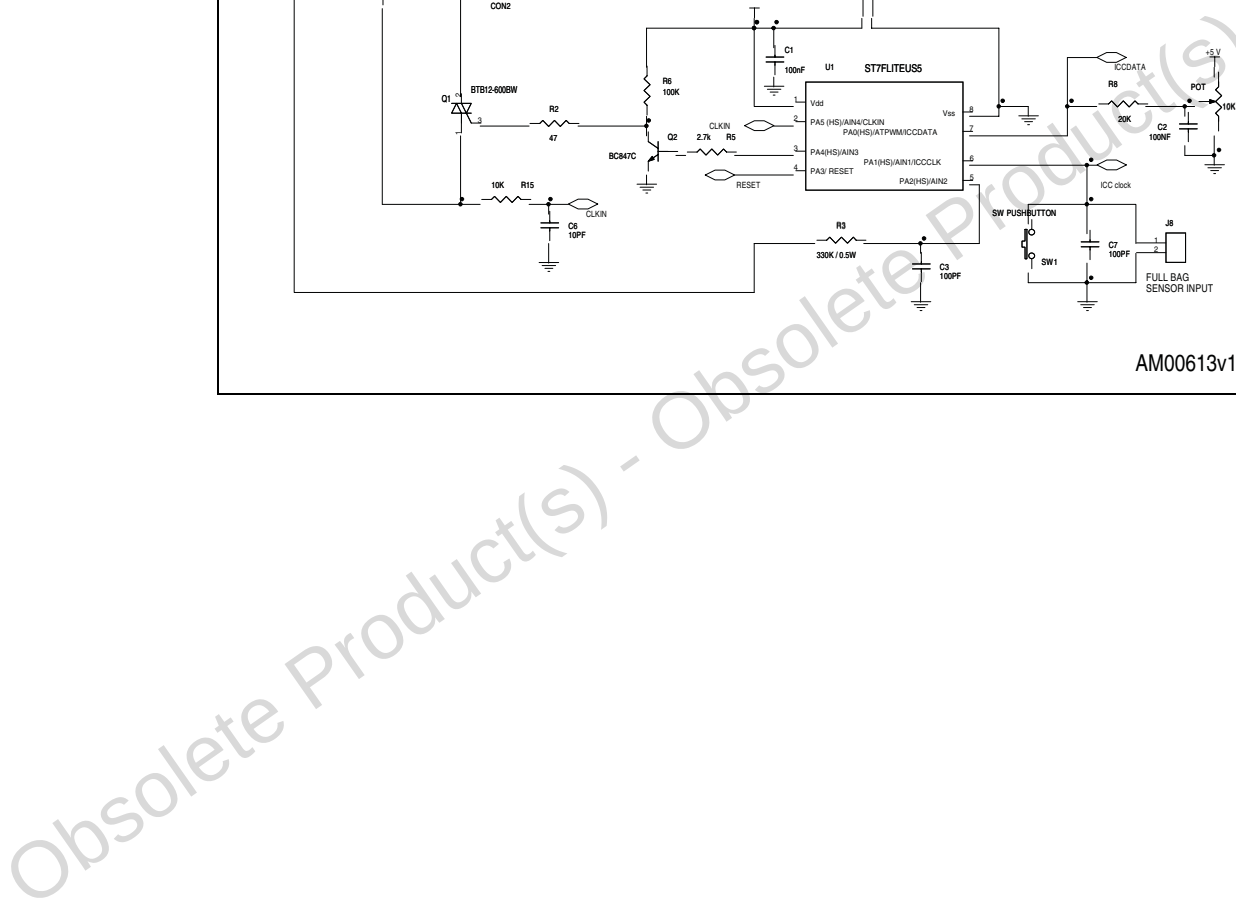
The electronic driver with TRIAC and microcontroller is cost effective and easy for designers to implement. Analog solutions are being progressively replaced by microcontroller designs even in low-cost applications. The main reason of this evolution is primarily due to the possibility to of implementing a soft-start function which allows the equipment to fulfill IEC 61000-3-3 standard on inrush currents.

Their advantages also include flexibility, using less external components and easy adaptation by simple software modifications.



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Figure 1. Control block



2 Revision history

Table 1. Document revision history

Date	Revision	Changes
04-Jun-2008	1	Initial release.

Obsolete Product(s) - Obsolete Product(s)

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