

Ceiling fan remote control unit based on the STM8 microcontroller

Data brief

Features

- Operating voltage: 180-250 V_{AC}
- Low-cost capacitive power supply for the STM8S003F3 (receiver), and CR2032 coin cell battery for the STM8L101F2 (IR remote)
- Triac-based speed control with firing angle
- IR receiver for speed control through RC5 remote
- Two pushbuttons for speed change
- RoHS compliant

Description

The STEVAL-IHM037V1 demonstration board implements speed control for an induction motor-based ceiling fan using a remote control. Traditionally, fan speed is controlled using a Triac-based regulator, which must be operated manually.

The STEVAL-IHM037V1 replaces the manual regulator with a remote control-based solution. Two pushbuttons are also provided to increase or decrease fan speed. Speed is regulated by controlling the firing angle of a Triac (T435x) with the STM8S003x microcontroller.



1 Schematic diagram

Figure 1. STEVAL-IHM037V1 circuit schematic (1 of 2)

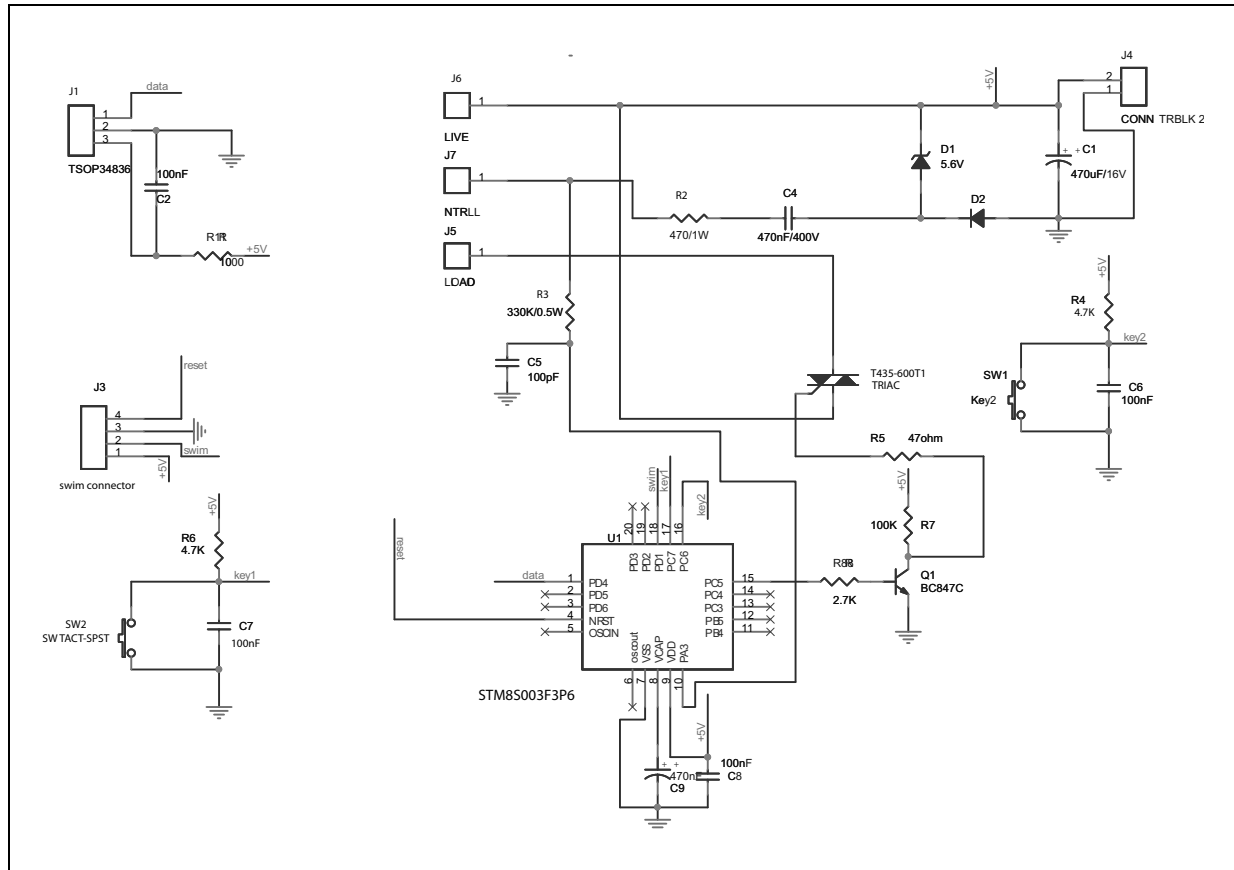
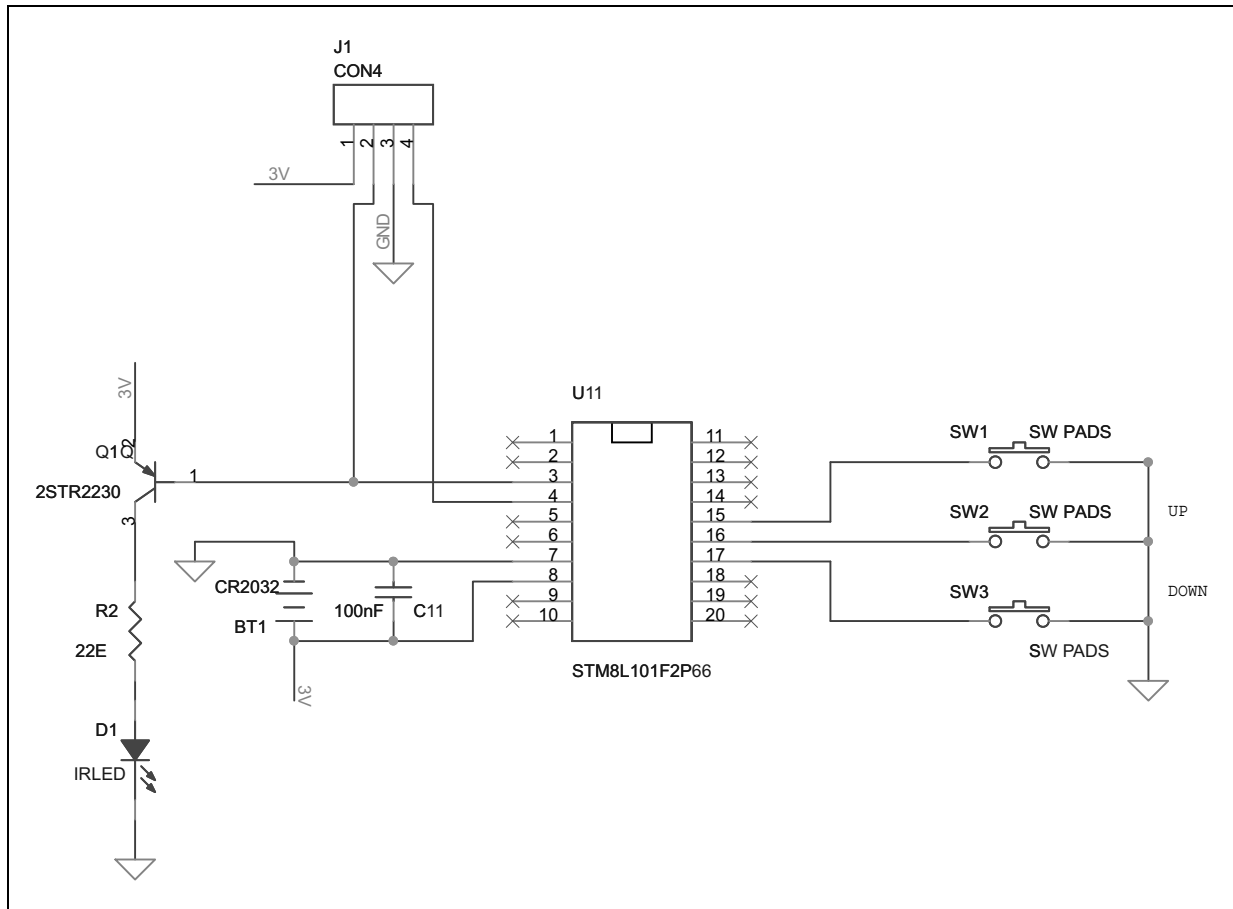


Figure 2. STEVAL-IHM037V1 circuit schematic (2 of 2)



2 Revision history

Table 1. Document revision history

Date	Revision	Changes
15-Jun-2012	1	Initial release.
11-Feb-2013	2	– Minor text edits throughout document. – Replaced Figure 1 and Figure 2 with more detailed schematic diagrams.

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