STEVAL-IHM019V1

Complete inverter for low power 3-phase asynchronous motors demonstration board

Data Brief

Features

- Voltage Input range 115 V_{AC} to 230 V_{AC} 50 Hz or 60 Hz
- Total output power 50 W
- High efficiency
- Switching PWM frequency 12 - 22 kHz
- Compliant with EN61000-6-3 and EN61000-6-2
- Possibility to use two motor types:
  - 2-phase motor two sinusoidal voltage waves restored with a phase displacement of 90° between them
  - 3-phase motor three sinusoidal voltages with phase displacement of 120° among them

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Applications

- Water pumps for heating systems in single-family houses
- High efficiency surplus water pump for home appliance white goods, like washing or washer-up machines
- High efficiency transfer pumps for outlet condensation water in gas furnace application

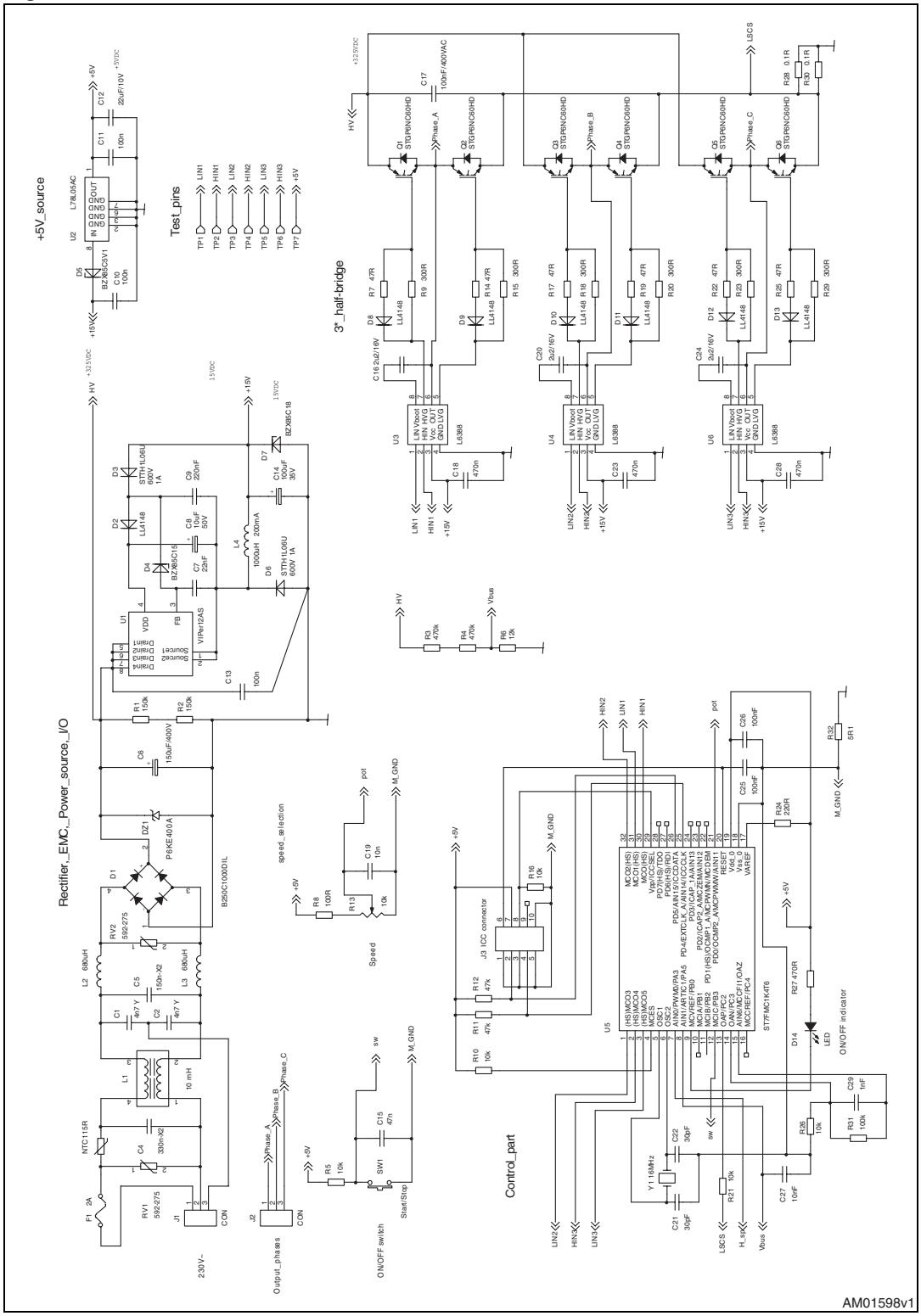
Description

This demonstration board implements a 3-phase inverter for low power asynchronous electric motors or permanent magnet AC motors up to 50 W. Nominal input voltage for inverter is 230 V_{AC} - standard single phase connecting. This 3-phase inverter is based on 8-bit ST7FMC motor control controller. Main target of this demonstration board is a very low-cost effective 3-phase inverter for permanent magnet AC motor, but with certain modification of software it can be used also for 3-phase asynchronous motors where high efficiency is required and low cost per solution is a must.

For further information contact your local STMicroelectronics sales office. www.st.com

1 Circuit schematic

Figure 1. Schematic



2 Revision history

Table 1. Document revision history

Date	Revision	Changes
12-Nov-2008	1	Initial release.

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