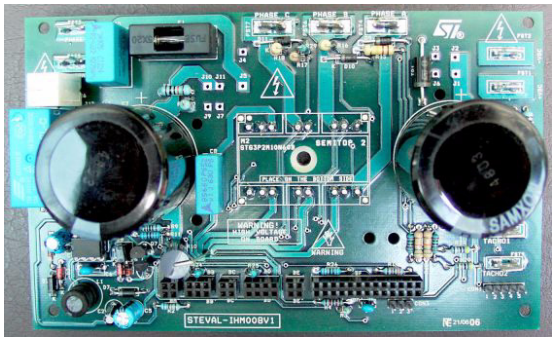
STEVAL-IHM008V1

BLDC & AC motor control Power board SEMITOP®2 1kW

Data Brief

Features

- Quick to set up, to install and easy to run
- Inverter stage IGBT short circuit rugged based
- Design is re-usable (the ORCAD source files are available for free)
- Several kinds of applications with six-step commutation or 6-signal PWM (sine wave-modulated) outputs, including: 3 Phase AC Induction motor control, 3 Phase BLDC/AC PM motor control (6-step sensorless), 3 Phase BLAC PM motor control (sinusoidal driven, with Hall sensors)
- Optimized layout to provide very low level of interference between the Power and the Signal noise
- Designed with ST SEMITOP® 600V / 10A module (STG3P2M10N60B)



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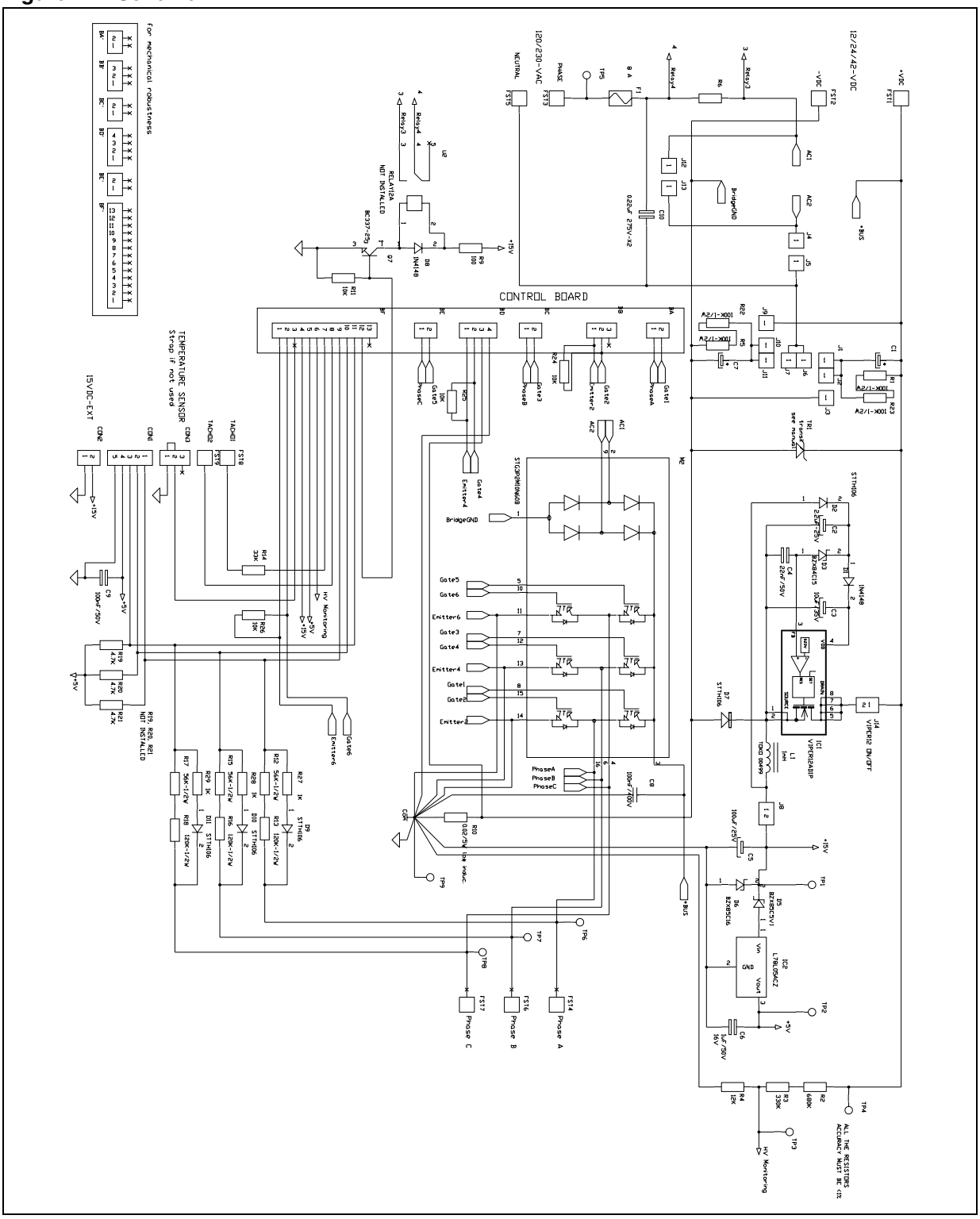
Applications

The general hardware architecture of the reference design kit is based on an Inverter topology suitable to efficiently drive three types of motors: "3 Phase BLDC/AC permanent magnet (in six-step mode)" , "3 phase AC induction" and "3 Phase BLAC PM motor (sinusoidal driven)" plus a plug-in control board, based on ST7FMC MCU. The inverter bridge is made by IGBT SEMITOP2® module, including mono-phase rectifier input bridge plus three phase IGBT inverter. The driving of the bridge is made by three IGBTs drivers (suited in the control board) with high side/low side integrated functionality in a single chip with also several protections. The supply of the power is implemented using the Viper, a Vertical Intelligent Power Enhanced Regulators which combines an optimized, high voltage, Vertical Power MOSFET with state-of-the-art PWM circuitry.

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

1 Board schematic

Figure 1. Scheme



2 Revision history

Table 1. Revision history

Date	Revision	Changes
09-Jun-2006	1	Initial release.
26-Jun-2006	2	Updated scheme *Figure 1*

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