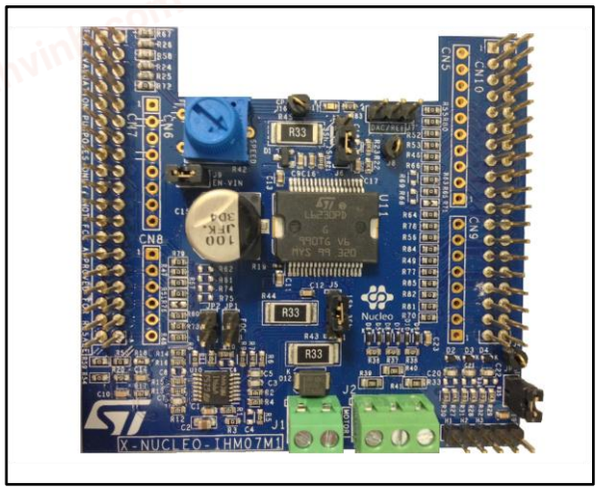
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X-NUCLEO-IHM07M1

Three-phase brushless DC motor driver expansion board based on L6230 for STM32 Nucleo

Data brief



Features

- 3-phase driver for BLDC/PMSM motors
- Nominal operating voltage range from 8 V to 48 VDC
- 2.8 A output peak current (1.4 A_{RMS})
- Operating frequency up to 100 kHz
- Non dissipative overcurrent detection and protection
- Cross-conduction protection
- Thermal measuring and overheating protection
- Compatible with STM32 Nucleo boards
- Equipped with ST Morpho connectors
- 3-shunt and 1-shunt configurable jumpers for motor current sensing
- Hall/Encoder motor sensor connector and circuit
- Debug connector for DAC, GPIOs, etc.
- Potentiometer available for speed regulation
- User LED
- RoHS compliant

Description

The X-NUCLEO-IHM07M1 is a three-phase brushless DC motor driver expansion board based on the L6230 for STM32 Nucleo. It provides an affordable and easy-to-use solution for driving three-phase brushless DC motor in your STM32 Nucleo project. The X-NUCLEO-IHM07M1 is compatible with the ST Morpho connector and supports the addition of other boards which can be stacked with onto a single STM32 Nucleo board. The user can also mount the Arduino UNO R3 connector. The driver used on this STM32 Nucleo board is the L6230, a DMOS fully integrated driver for three-phase brushless DC motors assembled in a PowerSO-36 package (L6230PD), with overcurrent and thermal protection. The L6230 driver is optimized for six-step and FOC algorithms thanks to independent current sensing.

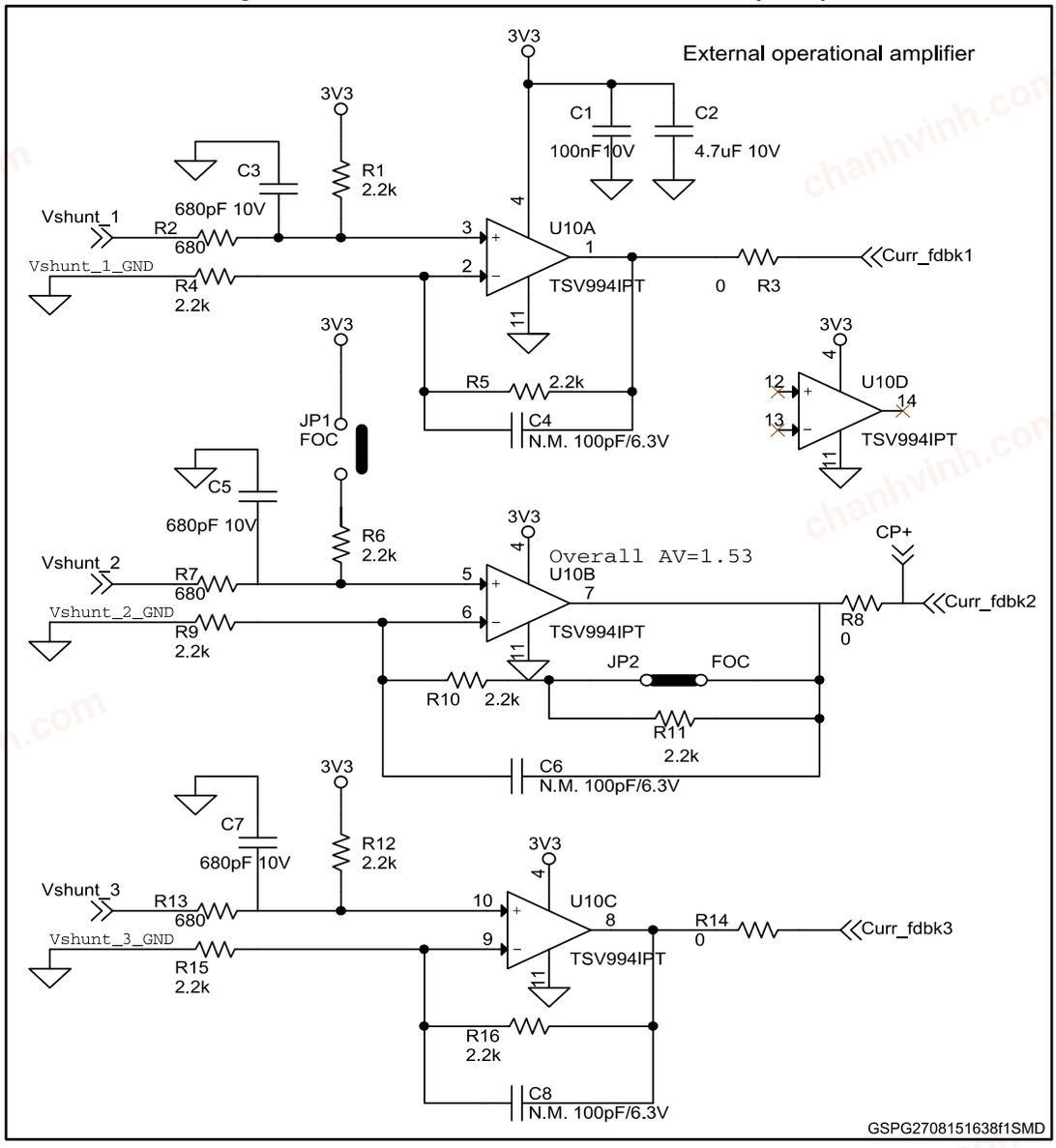
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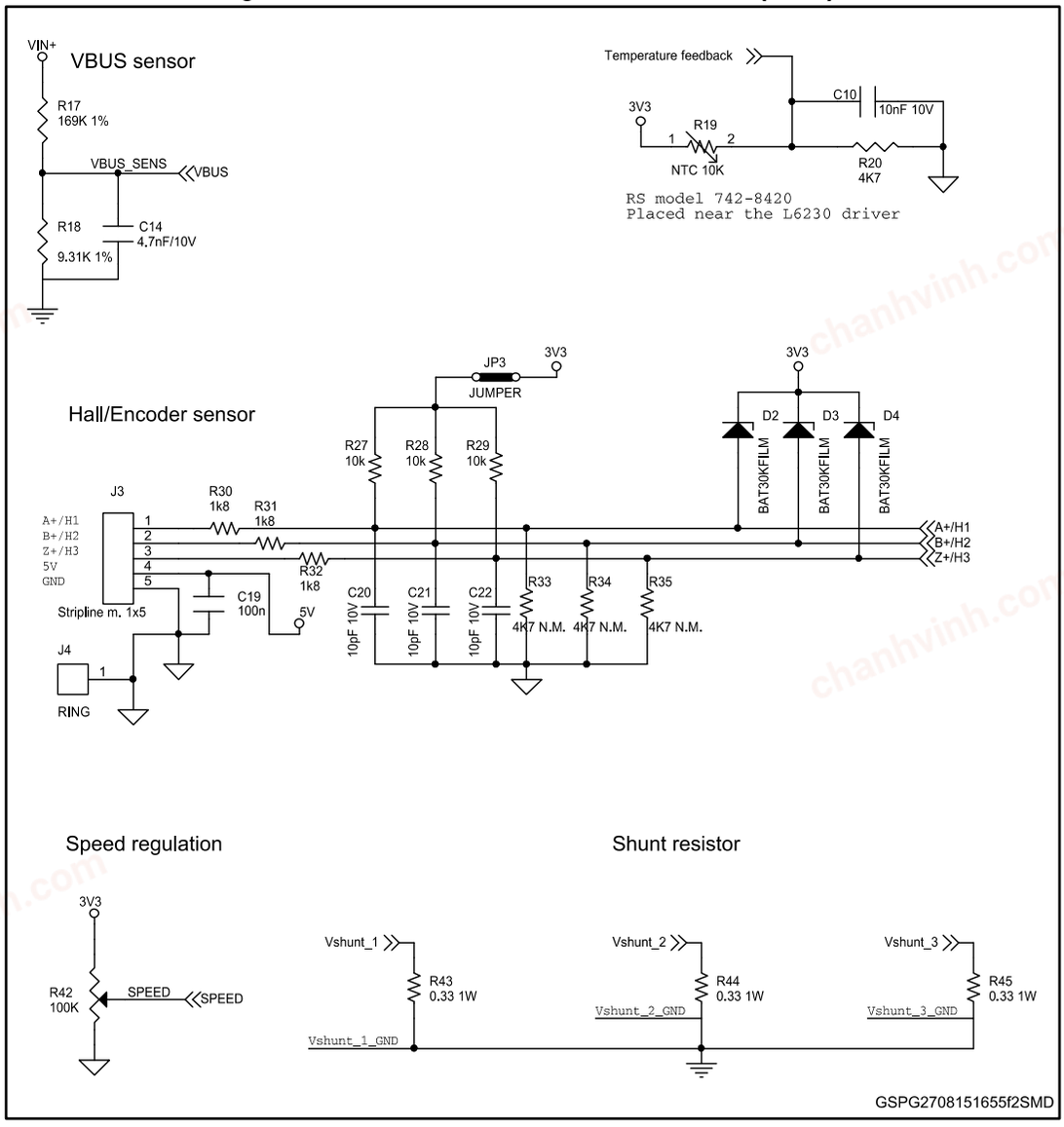
1 Schematic diagrams

Figure 1: X-NUCLEO-IHM07M1 circuit schematic (1 of 4)



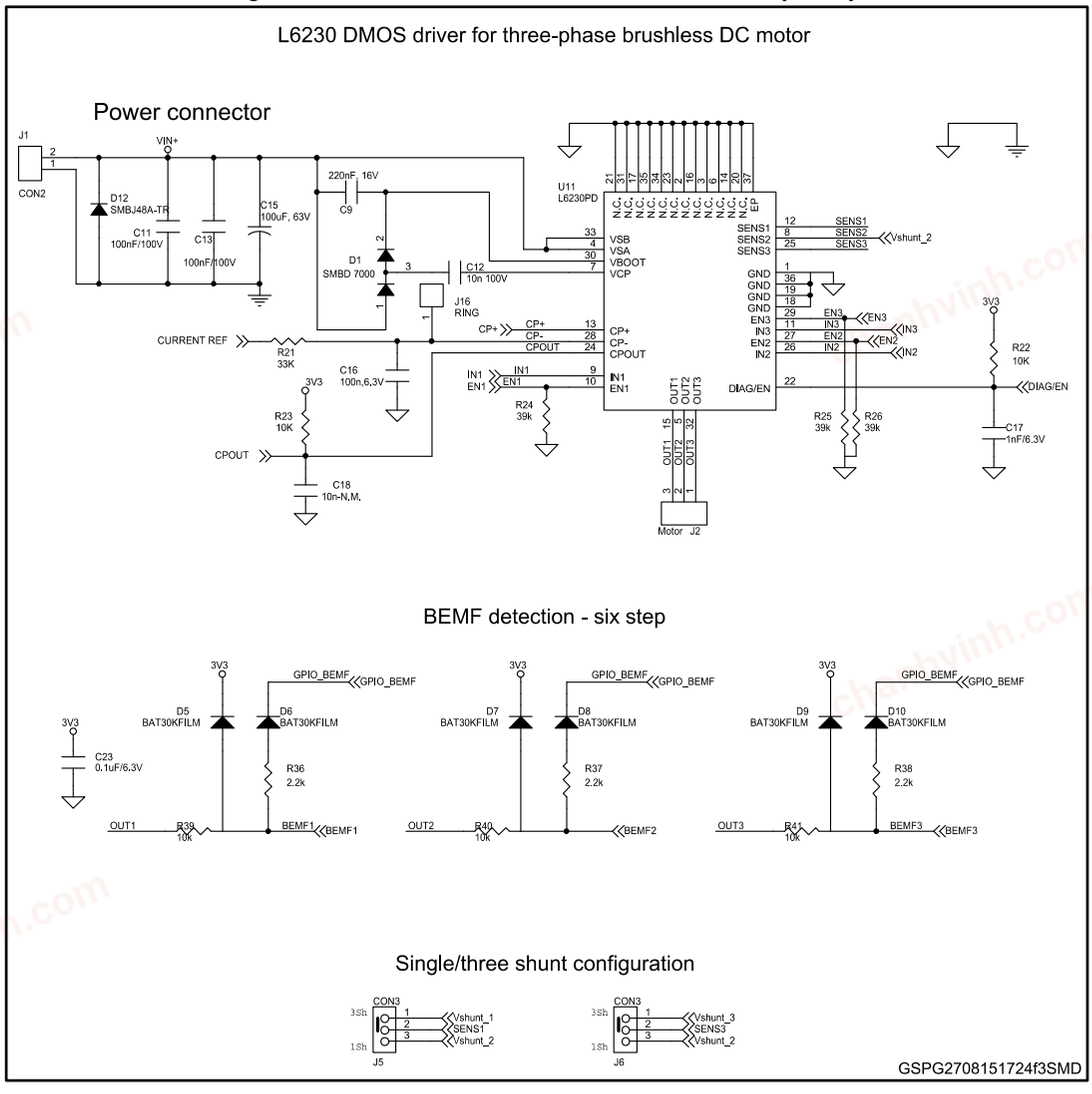
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Figure 2: X-NUCLEO-IHM07M1 circuit schematic (2 of 4)



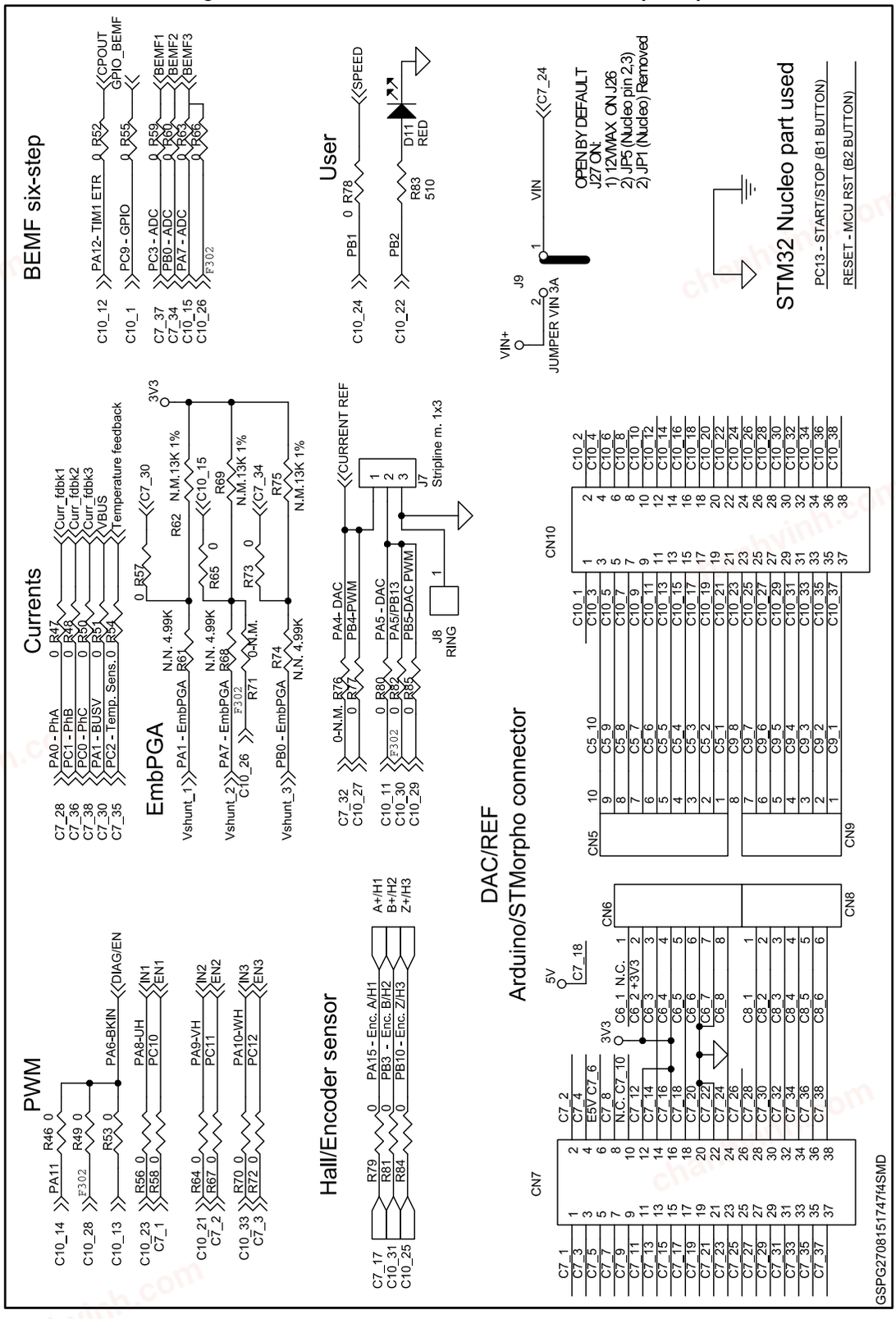
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Figure 3: X-NUCLEO-IHM07M1 circuit schematic (3 of 4)



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Figure 4: X-NUCLEO-IHM07M1 circuit schematic (4 of 4)



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2 Revision history

Table 1: Document revision history

Date	Version	Changes
27-Aug-2015	1	Initial release.

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