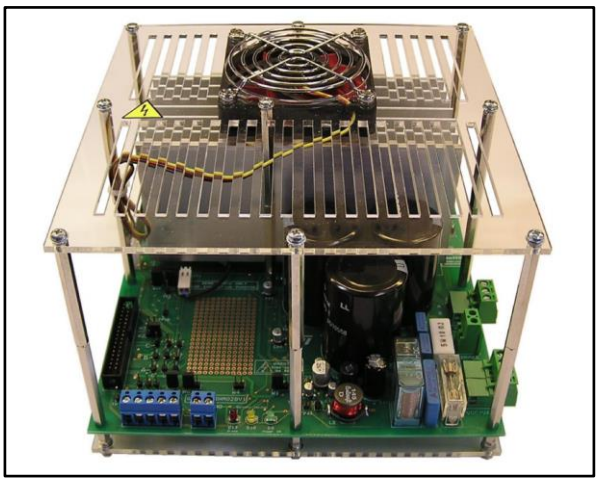
# STEVAL-IHM028V2

## 2 kW 3-phase motor control evaluation board featuring the STGIPS20C60 IGBT intelligent power module

Data brief



## Features

- Complete solution for a 2 kW power inverter
- HV supply mode: voltage 90 VAC to 285 VAC or direct DC line 125 V DC to 400 V DC
- Input voltage range extended to +400 V, for PFC compliance
- Input inrush limiter with bypassing relay
- Brake feature with overvoltage comparator
- Single- or three-shunt resistor current sensing method
- Hall sensor or encoder input
- Tachometer input
- Overtemperature and overcurrent hardware protection
- Active fan with automatic overtemperature switching
- Compact and safe design
- Universal conception for further evaluation with bread board and testing pins
- RoHS compliant

## Description

The goal of the STEVAL-IHM028V2 product evaluation board is to present a universal, fully tested and populated design consisting of a 3-phase inverter bridge based on the 600 V, 17 A intelligent power module STGIPS20C60. The IPM itself consists of short-circuit rugged IGBTs with negative temperature co-efficiency. It also contains a wide range of auxiliary functions like undervoltage lockout and smart shutdown.

Thanks to these advanced characteristics, the system has been specifically designed to achieve accurate and fast conditioning of the current feedback, matching the typical requirements for field oriented control (FOC).

This board can be used to evaluate a wide range of applications such as HVAC (air conditioners), power white goods and high-end single-phase power tools.

# 1 Schematic diagrams

**Figure 1: STEVAL-IHM028V2 circuit schematic (1 of 6)**

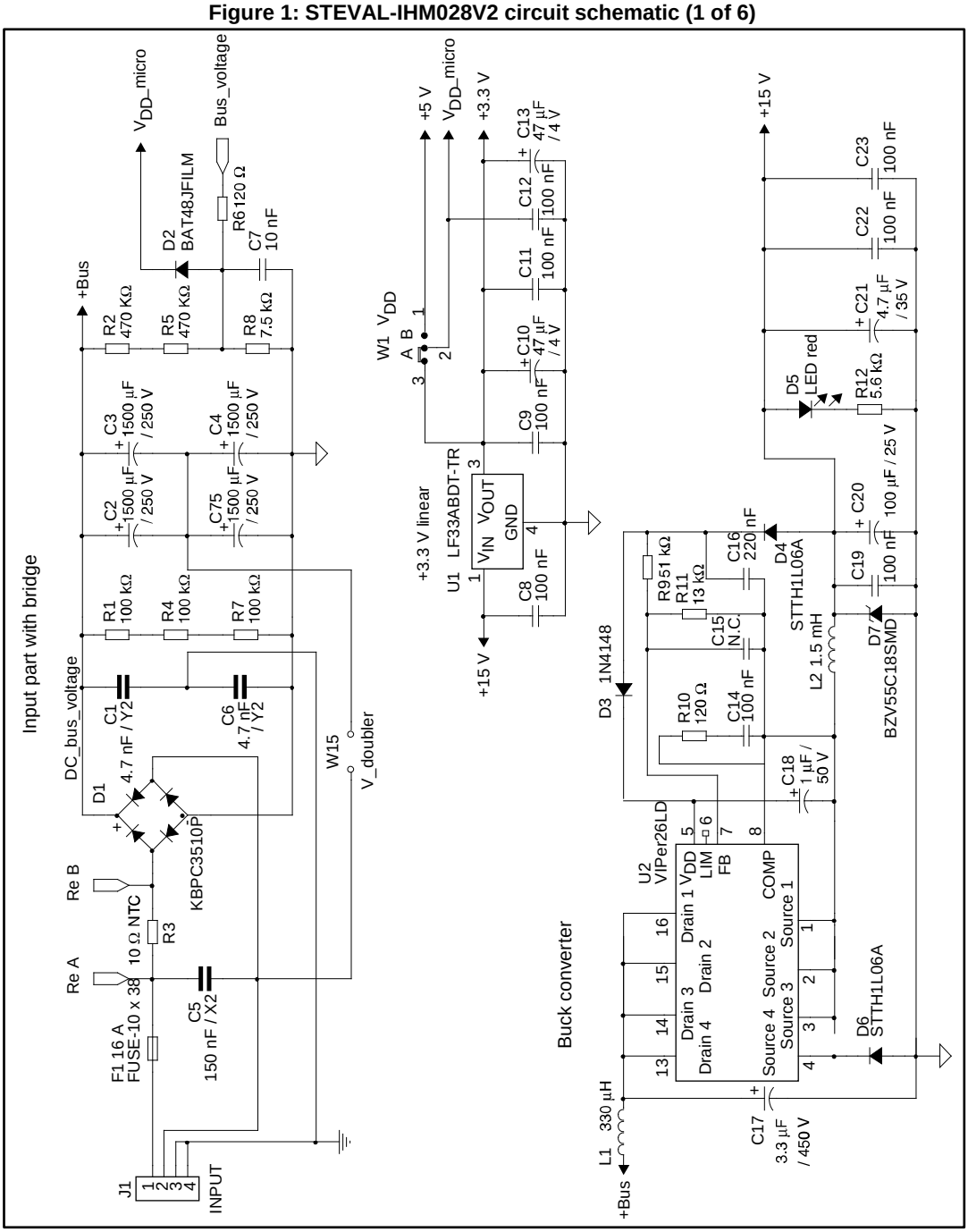


**Figure 2: STEVAL-IHM028V2 circuit schematic (2 of 6)**

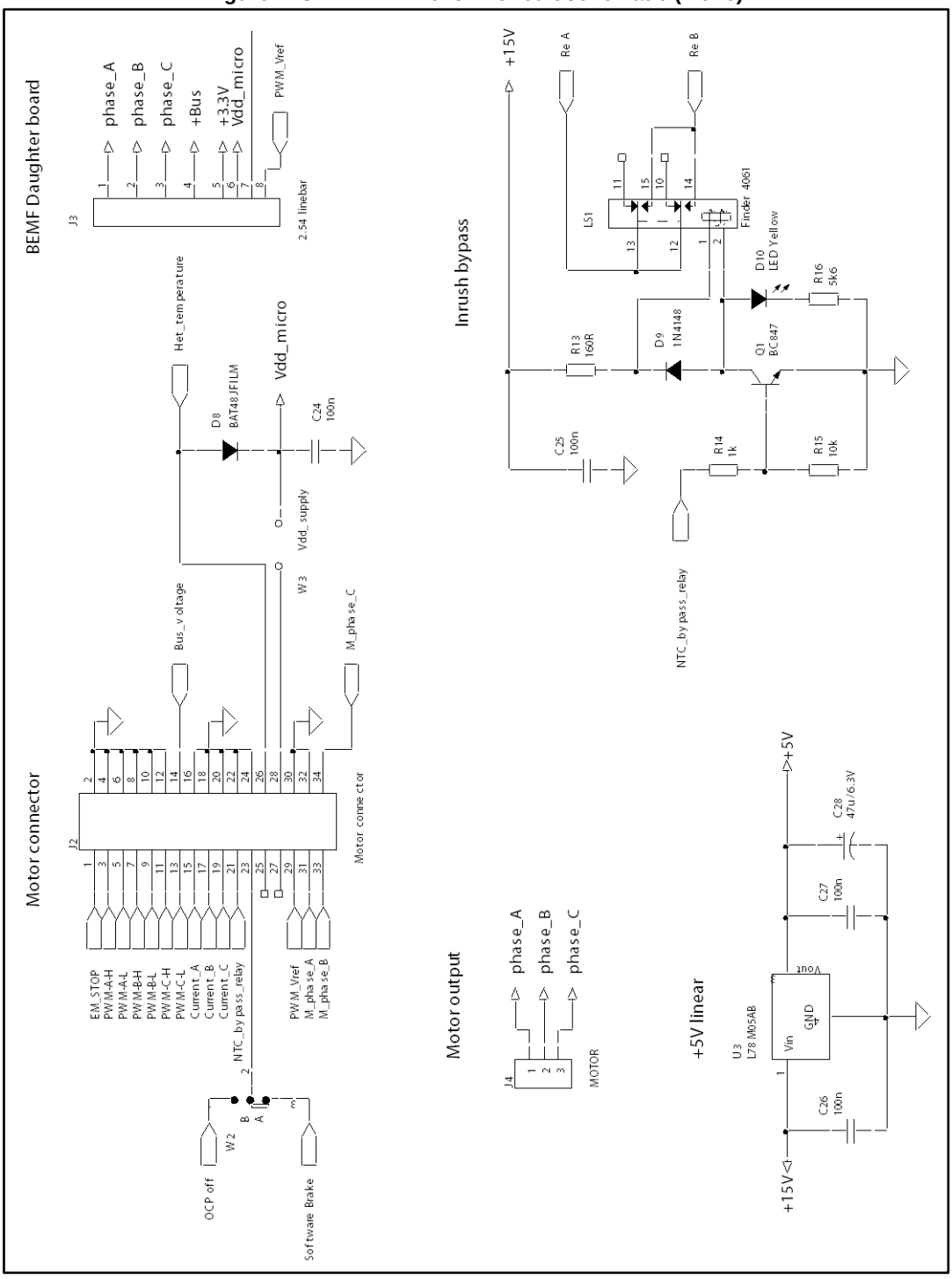


**Figure 3: STEVAL-IHM028V2 circuit schematic (3 of 6)**

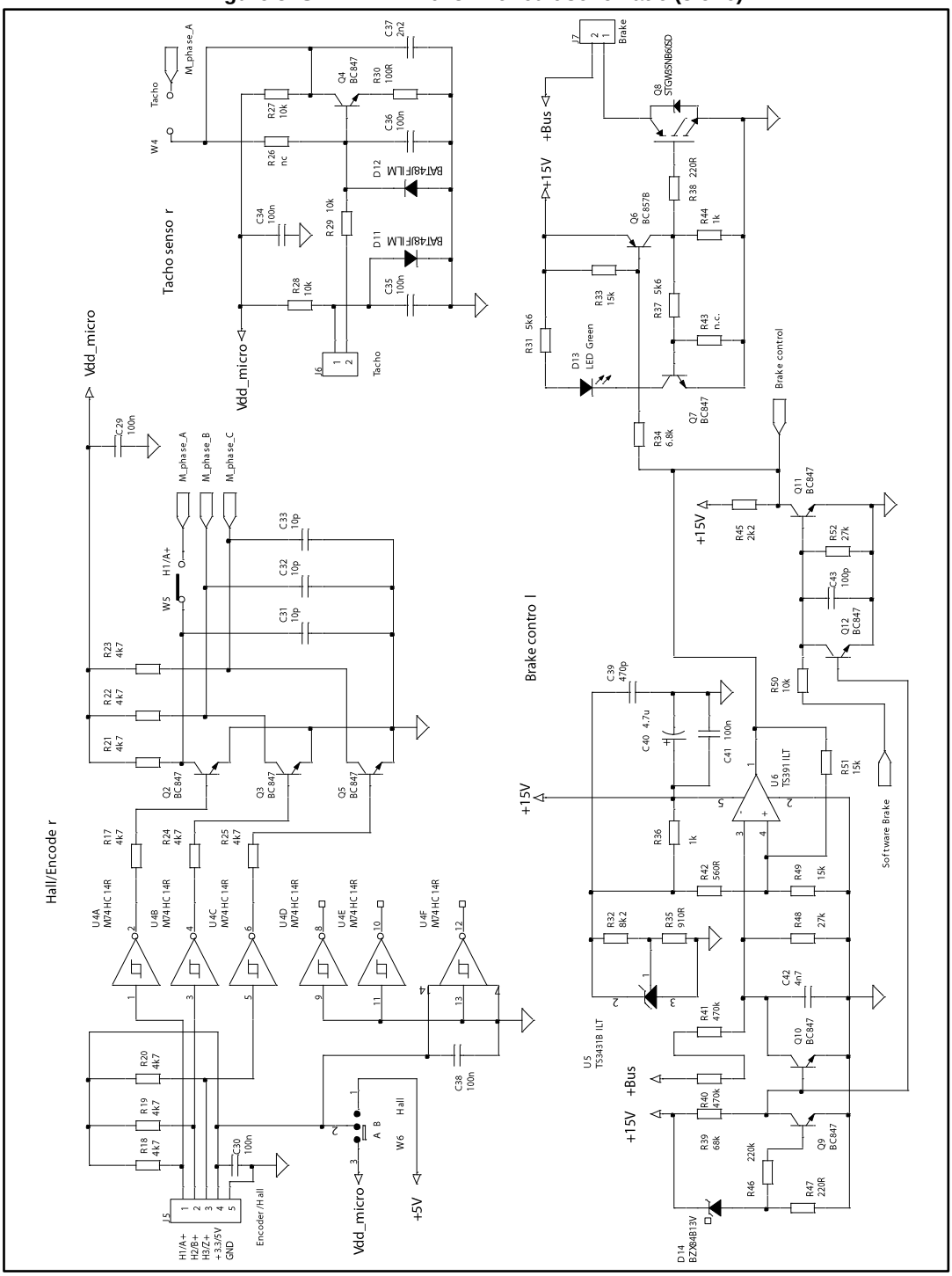


**Figure 4: STEVAL-IHM028V2 circuit schematic (4 of 6)**

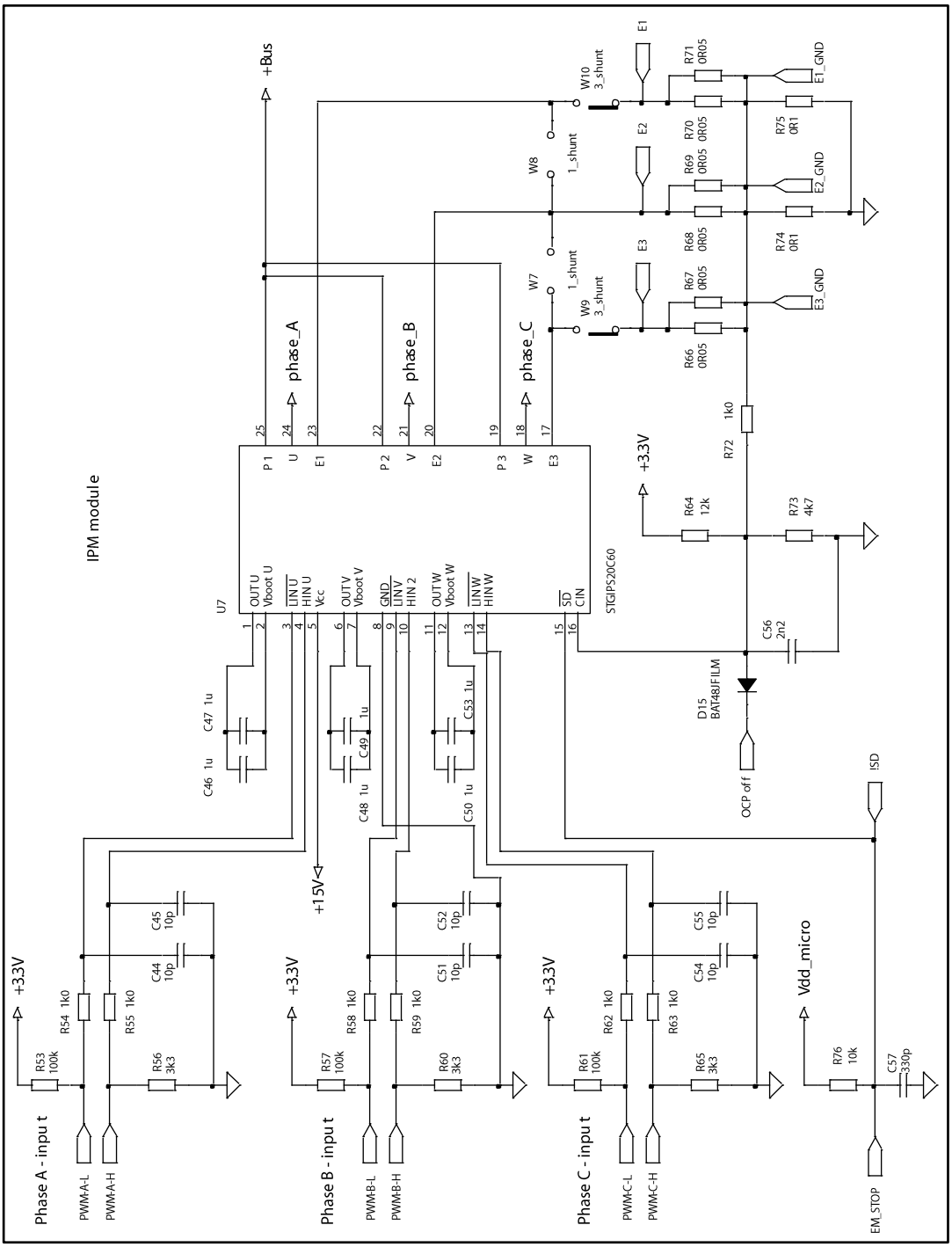


**Figure 5: STEVAL-IHM028V2 circuit schematic (5 of 6)**

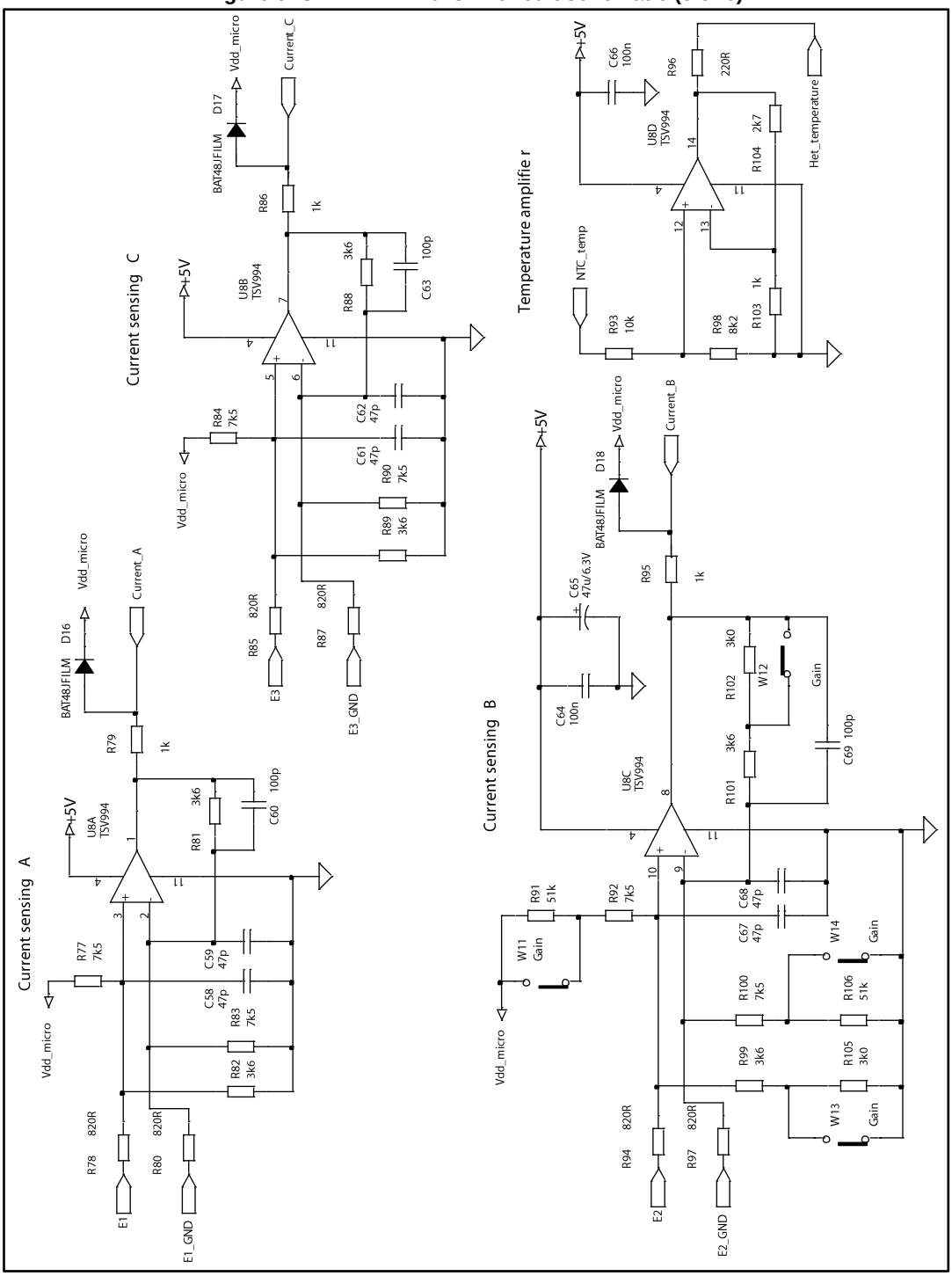
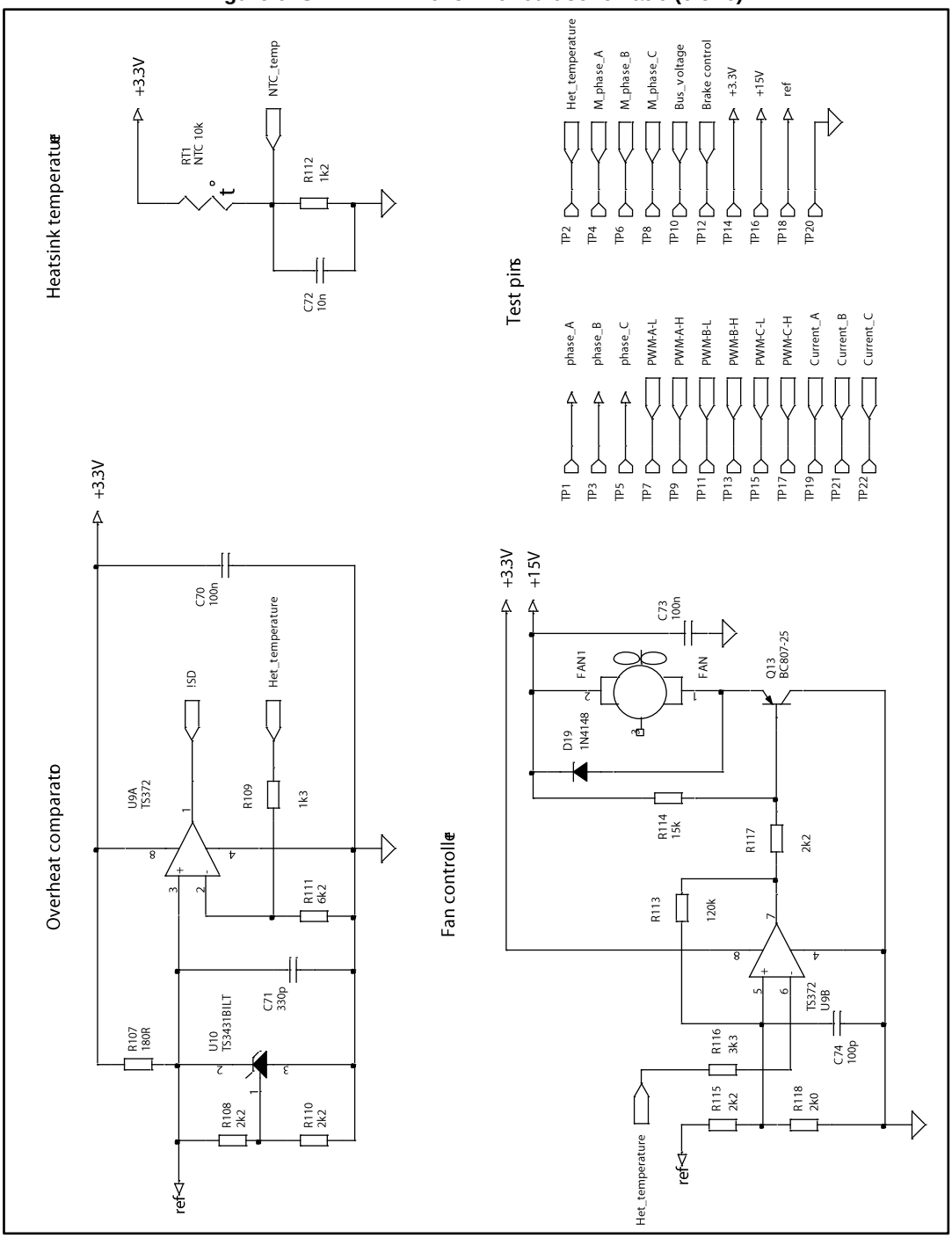


**Figure 6: STEVAL-IHM028V2 circuit schematic (6 of 6)**



# 2 Revision history

**Table 1: Document revision history**

| Date | Version | Changes |
|---|---|---|
| 22-Jul-2014 | 1 | Initial release. |
| 23-Aug-2017 | 2 | Updated *Figure 1: "STEVAL-IHM028V2 circuit schematic (1 of 6)"*. |

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