

STEPPER MOTOR CONTROL MODULE WITH RS-485 INTERFACE

- Supply voltage between 9V and 24V DC
- Control of one stepper motor or two DC motors with current up to 3A
- Three inputs/outputs with 3.3V logic
- Possibility of connecting up to three Hall detectors
- One 12-bit analog input for ntc
- RS-485 interface
- Field-programmable AtXmega32a4u.
- Green LED on board
- 65 mm x 50 mm

The board can operate as a stand-alone control unit, or as a slave on an RS485 bus, constituting an expansion module for driving motors, solenoids, relays or other remote peripherals.



The brain of the system is the powerful Atmel Atxmega32a4u microcontroller, which can be programmed on the board itself through its PDI interface on connector J2, with pinout compatible with all AVR microprogrammers.

The application can be compiled with any of the following IDEs:

- Atmel Free IDE "Atmel Studio"
- Codevision AVR
- AVR IAR Compiler
- ATmanAVR
- MicroC PRO AVR
- BASCOM
- Others.

To program the xmega32 you can use any ISP programmer, such as the AVRISP mkII and compatible ones, or one of the debuggers such as the Atmel-ICE.

From the web www.ledoelectronics.com you can download sample codes in C and C++, which show how to use the different drivers to configure the CPU and all the peripherals used on the board.

CPU

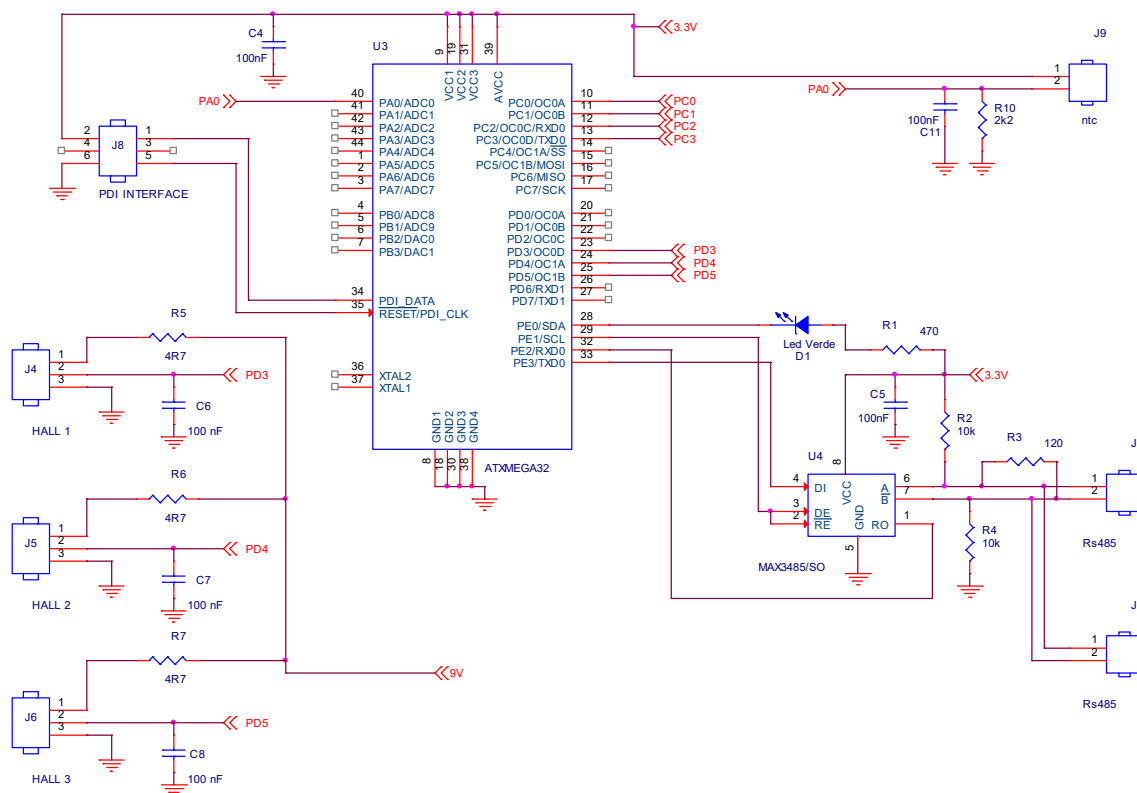


Fig.1. Cpu and Rs485 interface.

Motor control

The circuits used as drivers for motors, solenoids or stepper motors have internal protection against short circuits, overloads and overheating. They also allow PWM modulation and reversal of the output signal polarity, since each of them is an H bridge with power Mosfets.

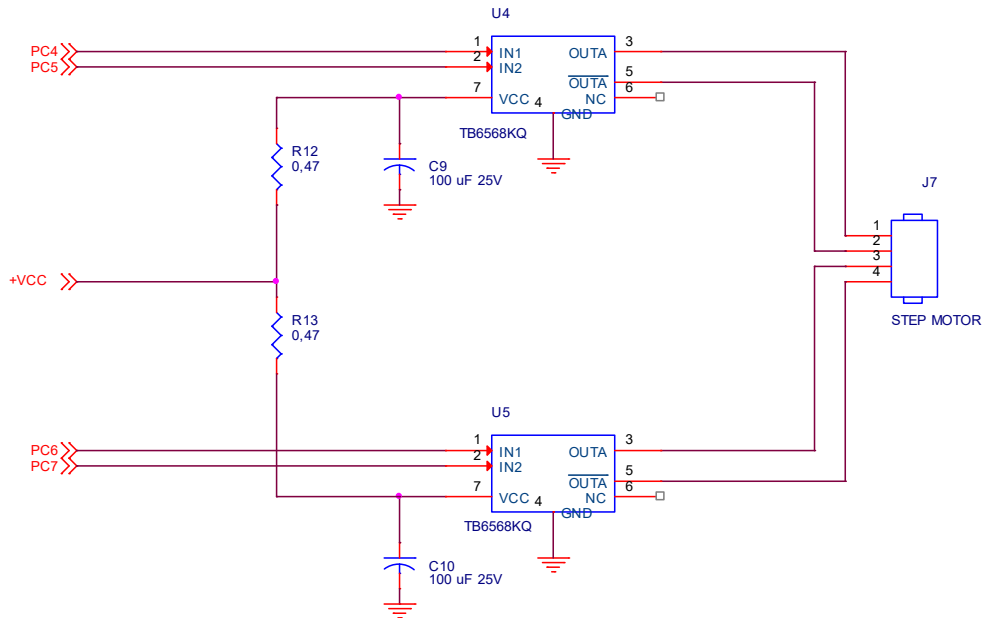
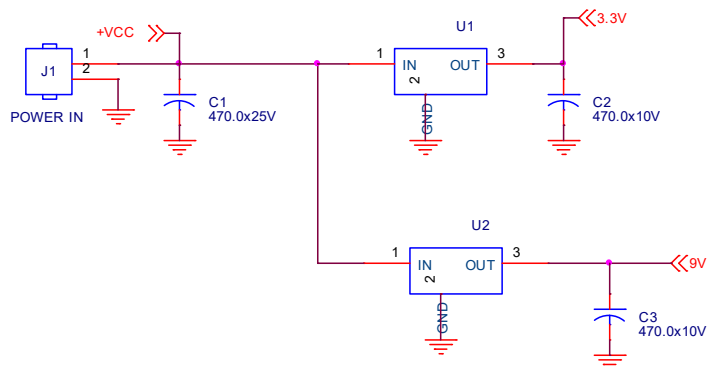


Fig.2. Motor control power outputs.

Voltage Regulators



Regulator U1 generates the 3.3V that is used to power the atxmega32a4u CPU.

Regulator U2 is used only to power the SR13C-A1 Hall position detectors.

