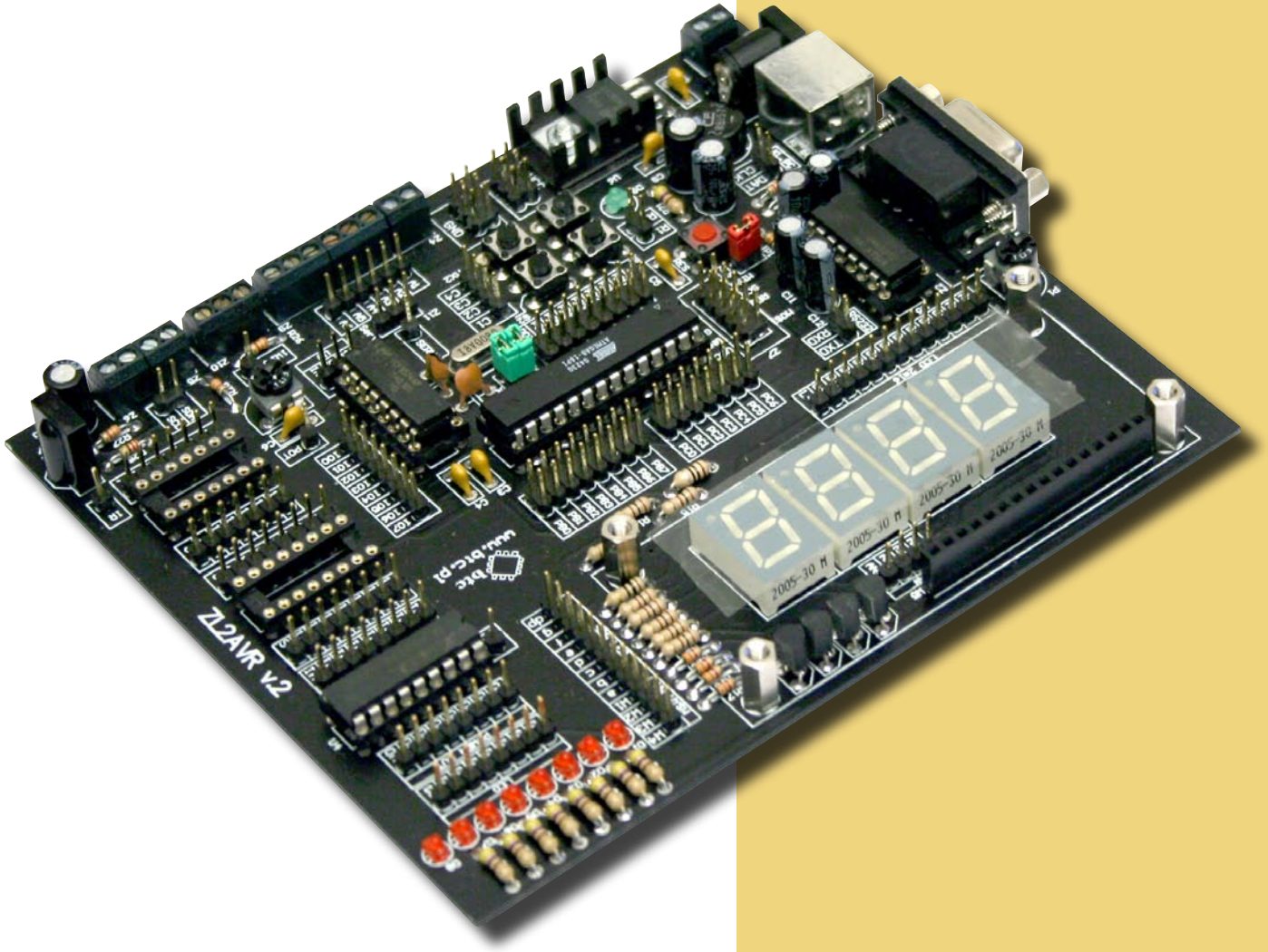
KAMAMI

ZL2AVR

Evaluation board with ATmega8 microcontroller



Thank you for buying ZL2AVR evaluation board. We hope that the power and quality of our tool will meet your expectations.

ver. 1.0

btc

Introduction

ZL2AVR evaluation board was designed for ATmega8 microcontroller users. It can be used for development of various projects without need for PCB layout design. ZL2AVR is also an excellent foundation for many specialized controllers designs based on ATmega8 microcontroller.

Key Features

- ATmega8 microcontroller (U1)
- ISP connector (Z7)
- Connector for 2x16 characters LCD display (W5)
- Four 7-segment LED displays (W1-W4)
- RS232 interface (Z2) with MAX232 voltage converter (U5)
- High power output port with ULN2803A (U4)
- Eight LEDs (D1...D8)
- Four switches (S1...S4)
- Infrared receiver (U7)
- I²C to 8-bit I/O port converter (U8)

Contents of package

Code	Description
ZL2AVR	▶ ZL2AVR evaluation board 1 pcs.

Technical assistance

For technical assistance, please contact support@kamami.com.
Please provide the following data:

- Version of the operating system
- Microcontroller type used in your system and its oscillator frequency
- Detailed description of the problem

BTC Korporacja
05-120 Legionowo, Poland
ul. Lwowska 5
e-mail: office@kamami.com
http://www.kamami.com

Schematic

Circuit diagram of ZL2AVR evaluation board is shown on **Fig. 1**. Universality of this tool is achieved by equipping it with most often used peripherials: real time clock, LEDs, RS232 interface, etc. All connections between functional blocks of ZL2AVR development board should be made using wire jumpers crimped with ferrule type terminals that can be used with standard 0.1" header pins (CAB_A cables).

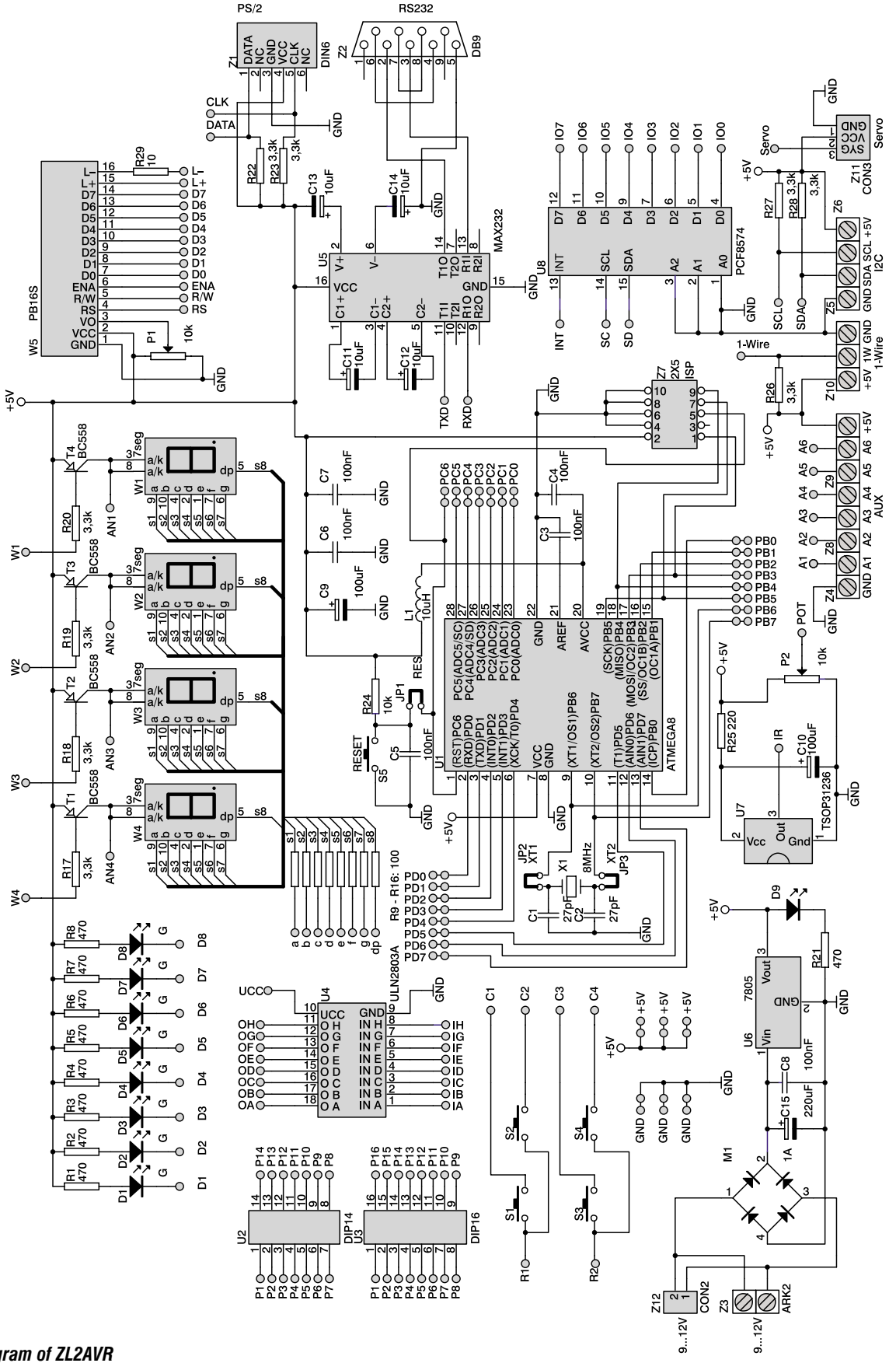
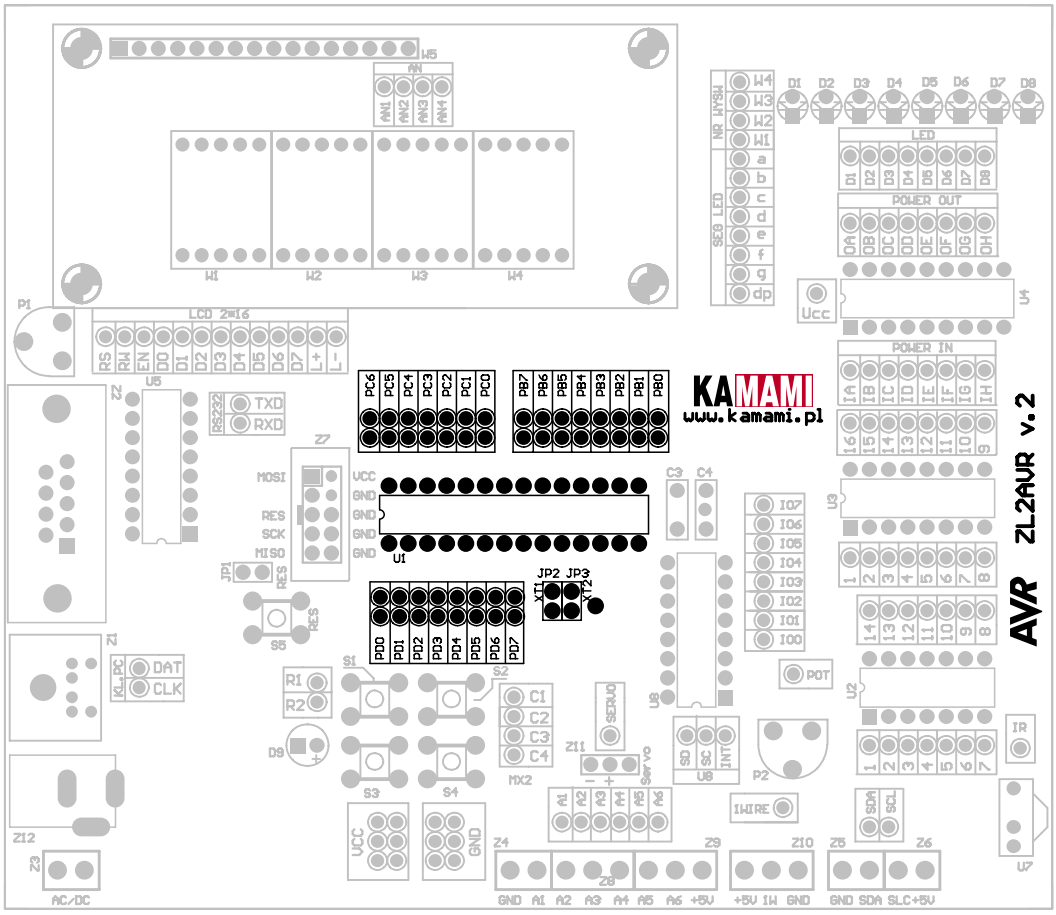


Fig. 1. Circuit diagram of ZL2AVR

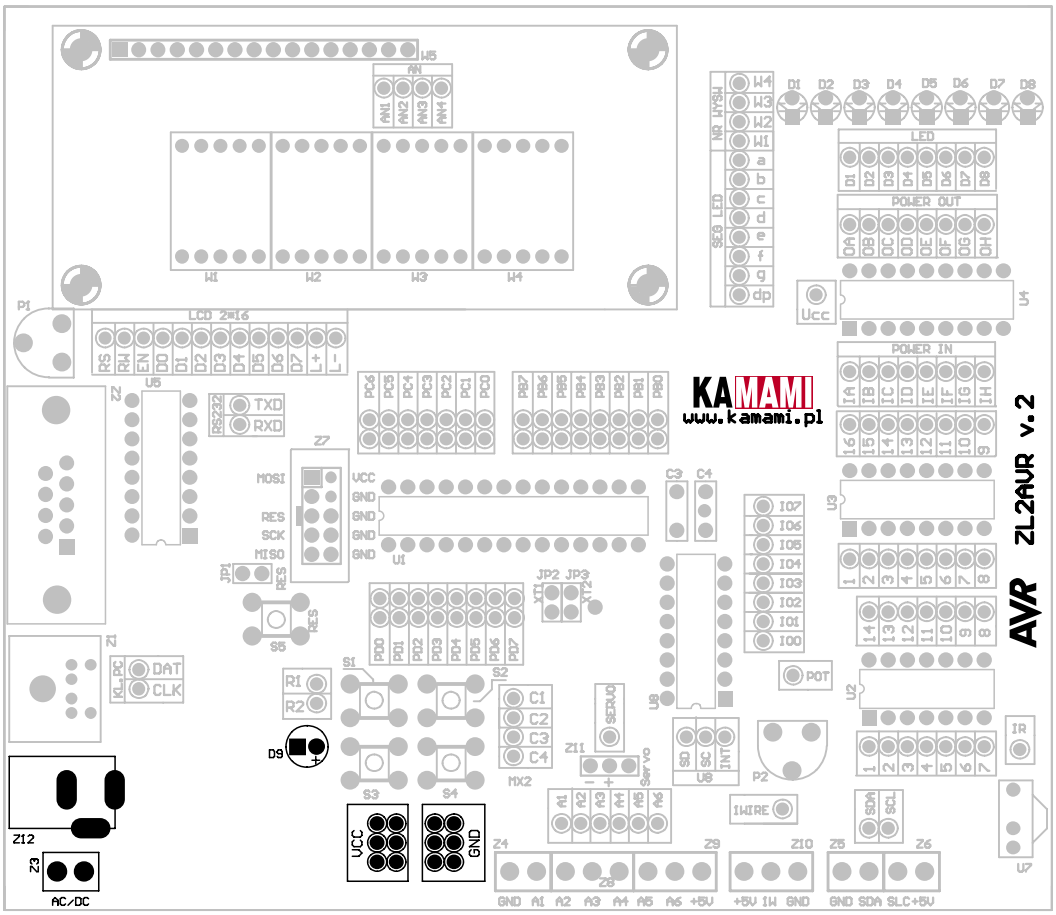
ATmega8 microcontroller

All I/O lines of on-board ATmega8 microcontroller are available on header connectors. JP2 and JP3 shunts can be used to disconnect crystal oscillator from PB6 and PB7 pins.



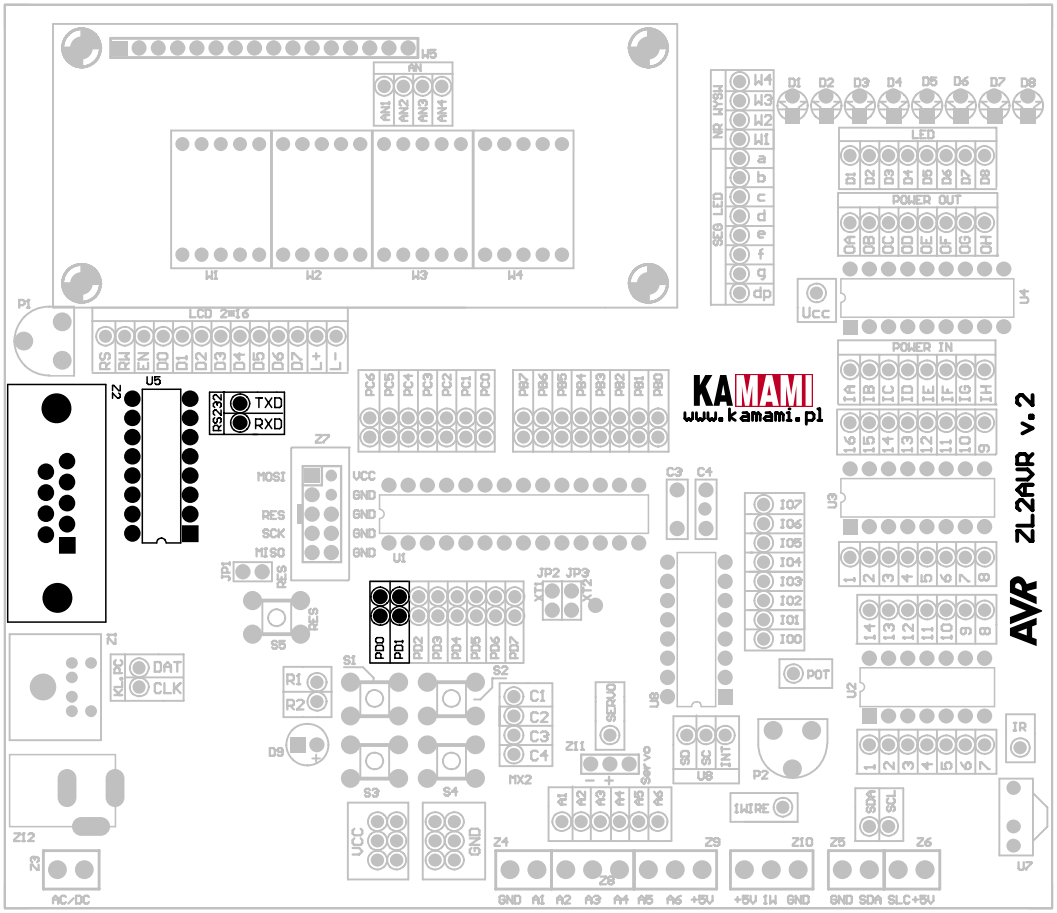
Power

All devices on the board are powered from +5V stabilized voltage source (U6). A typical AC/DC power adapter producing 9...12VDC output with min. 500mA load capacity can be used for powering the ZL2AVR board. Power adapter should be connected using socket Zl2 or Z3 connector. The D9 LED diode indicates presence of supply voltage .



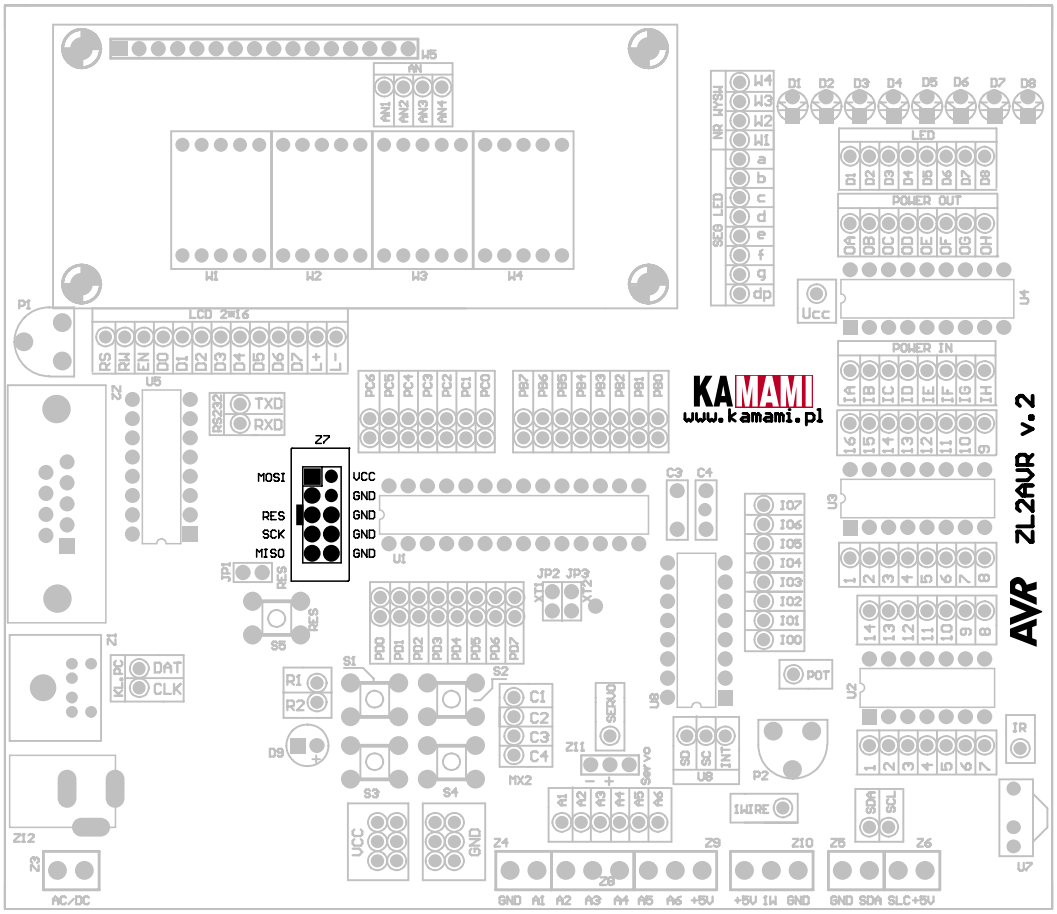
UART

The RS232 interface can be used by connecting pins: PD0 with RXD and PD1 with TXD.



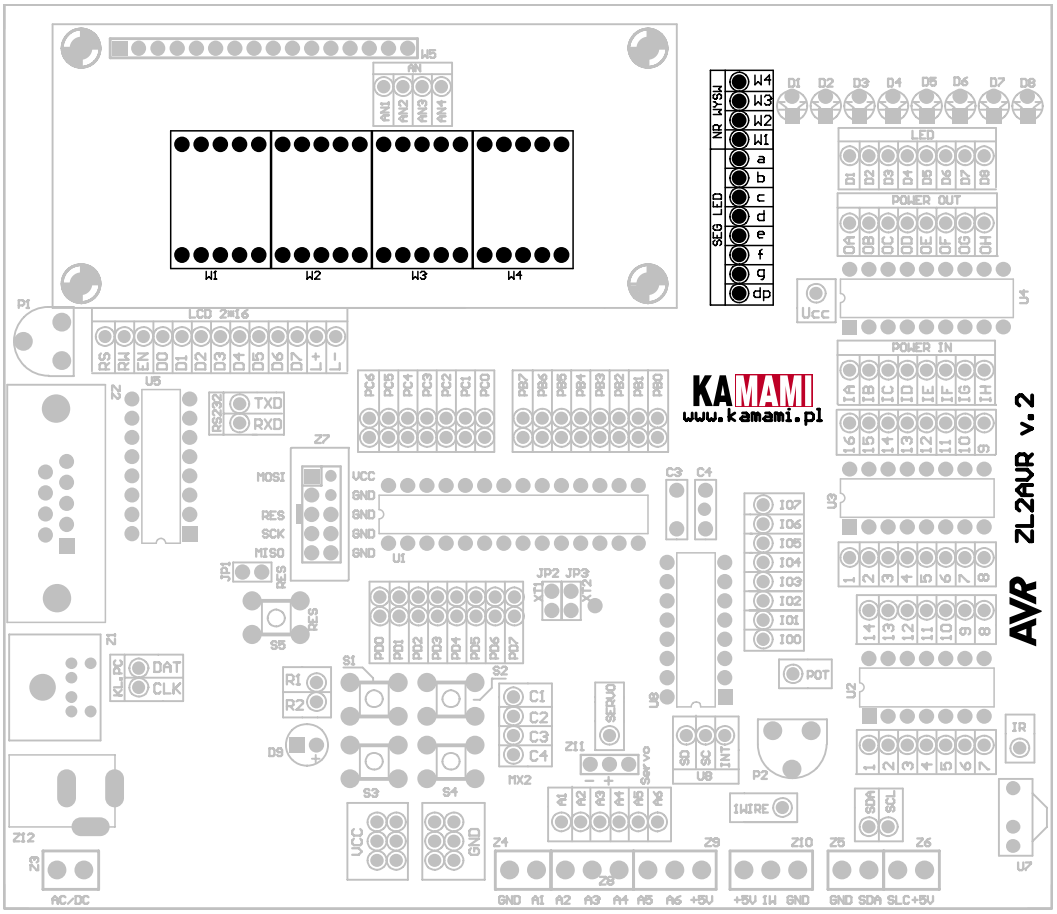
ISP programming connector

To program on board microcontroller, ISP programmer should be used (ZL2PRG, ZL20PRG - KamProg for AVR). The ZL2AVR board contains 10 pin Z7 connector.



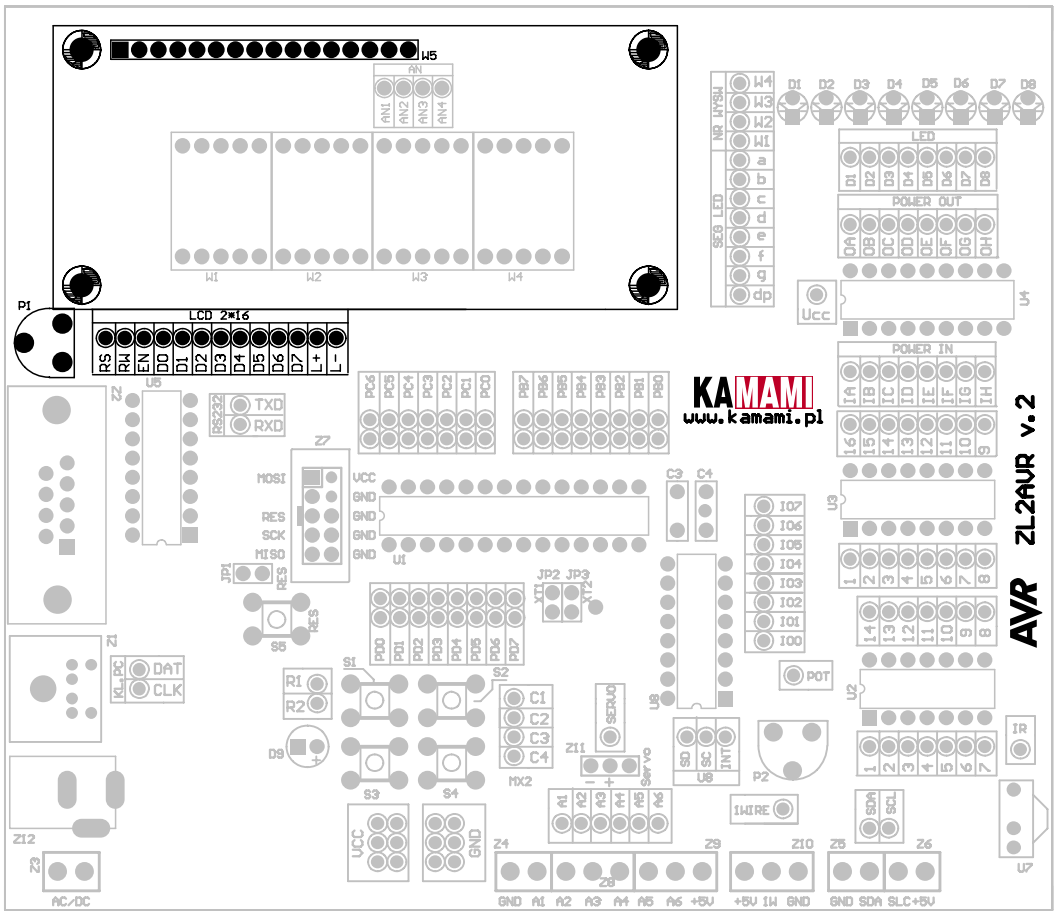
Four 7-segment LED displays

The ZL2AVR board contains four 7-segment LED displays. All four displays can be used only in multiplexed drive mode. In static drive mode only one display can be used.



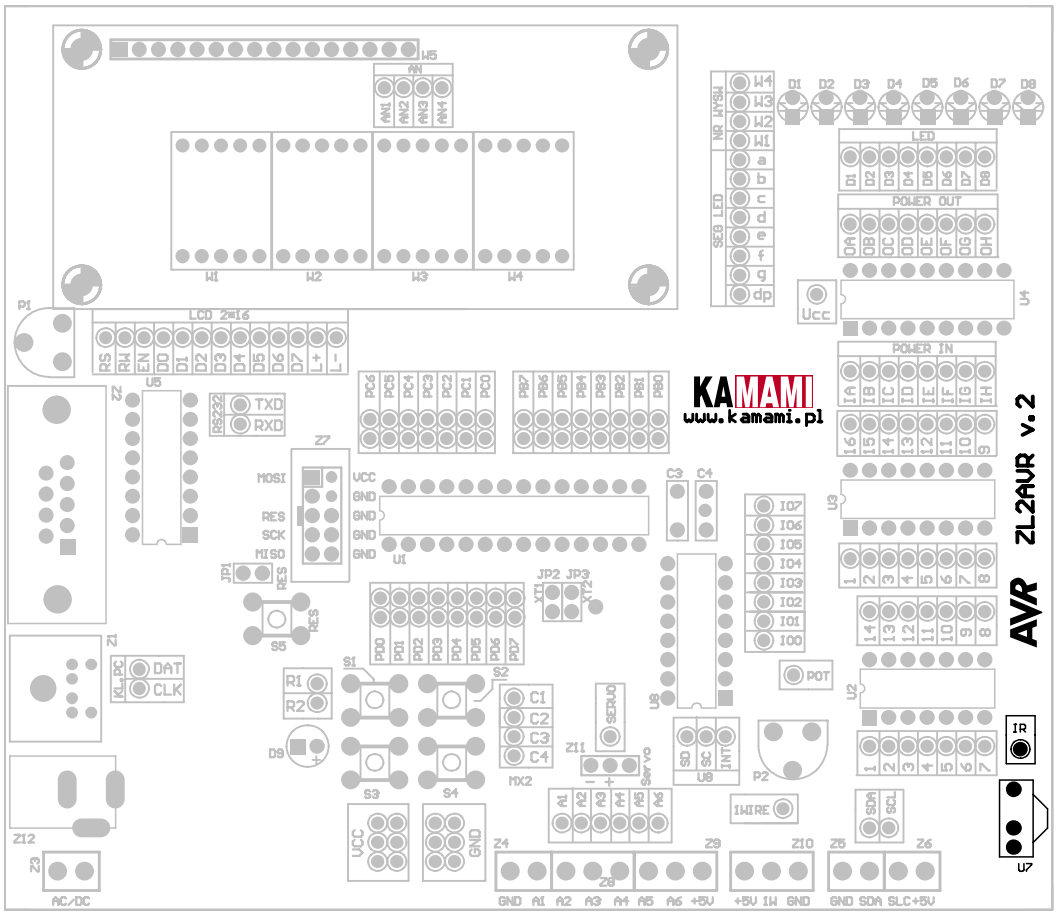
2x16 character LCD display

A standard alphanumerical LCD display can be connected to W5 socket. The display contrast can be adjusted using provided P1 potentiometer. All LCD data pins are available for user application, allowing user to drive LCD in 4 or 8-bit mode as well as with and without reading busy flag.



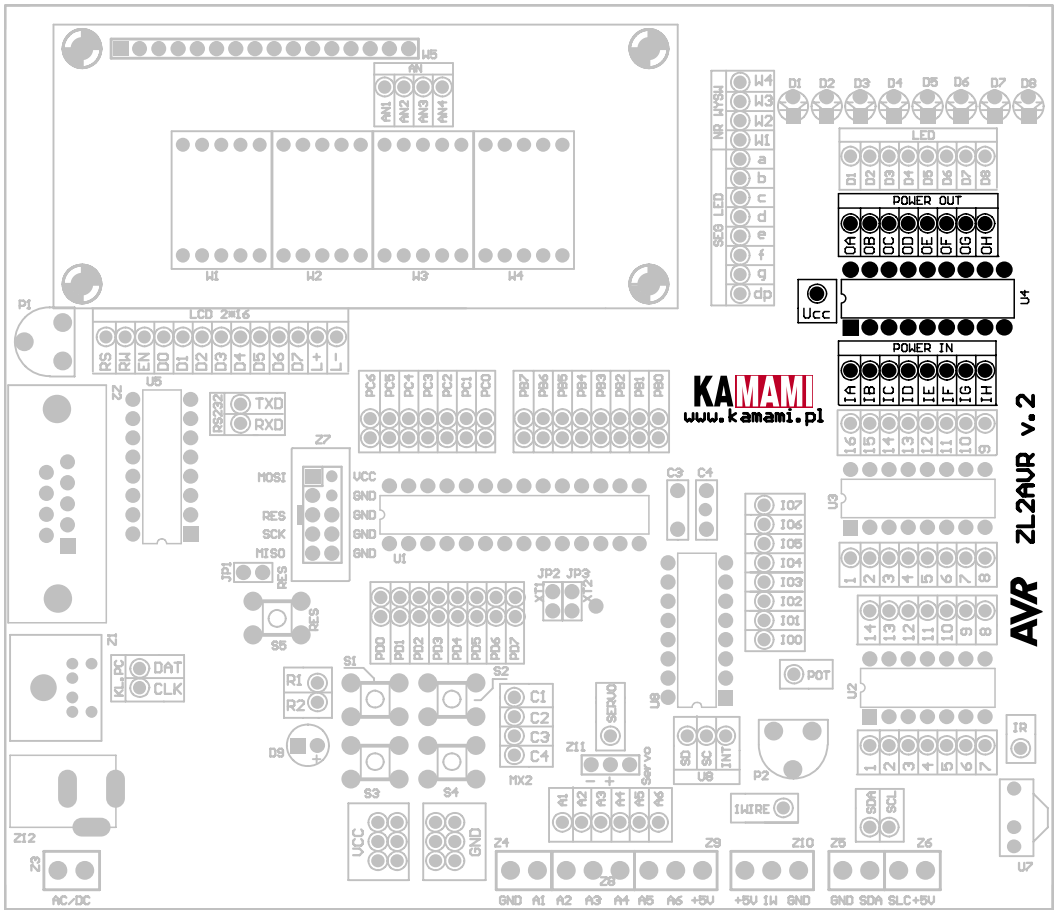
Infrared receiver

The TSOP31236 receiver can be used to receive infrared signals.



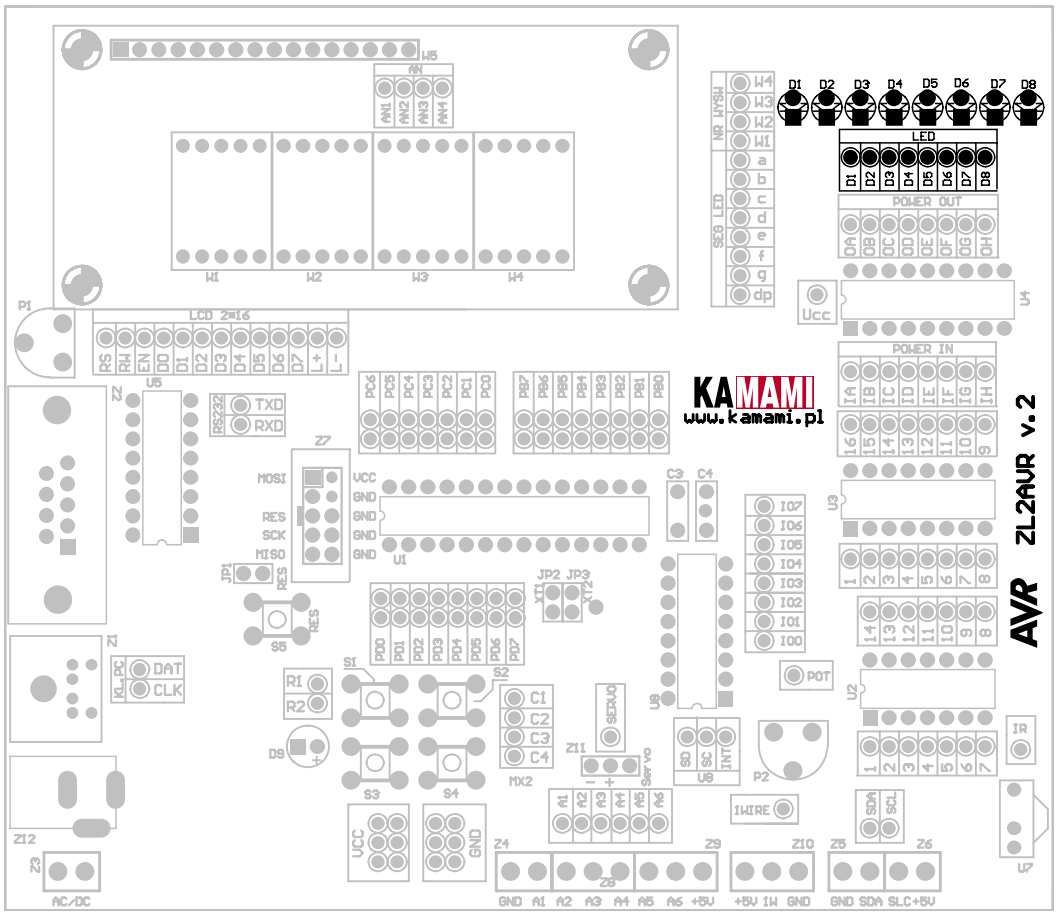
Power outputs

The ULN2803 driver can be used to control up to 0.5A sink output current. Additional anti-clamp diodes can be connected to Vcc pin.



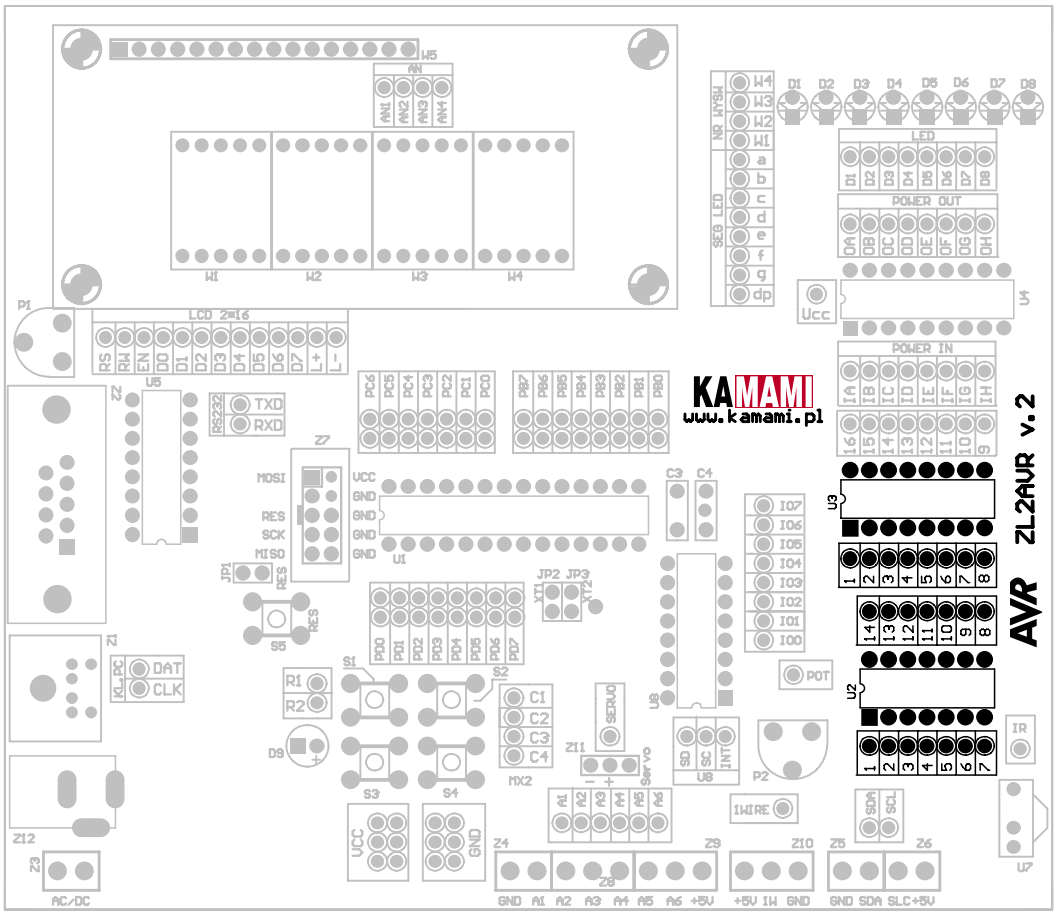
LED diodes

The ZL2AVR board provides 8 LEDs in common anode circuit. Each diode has it's own resistor for current limiting.



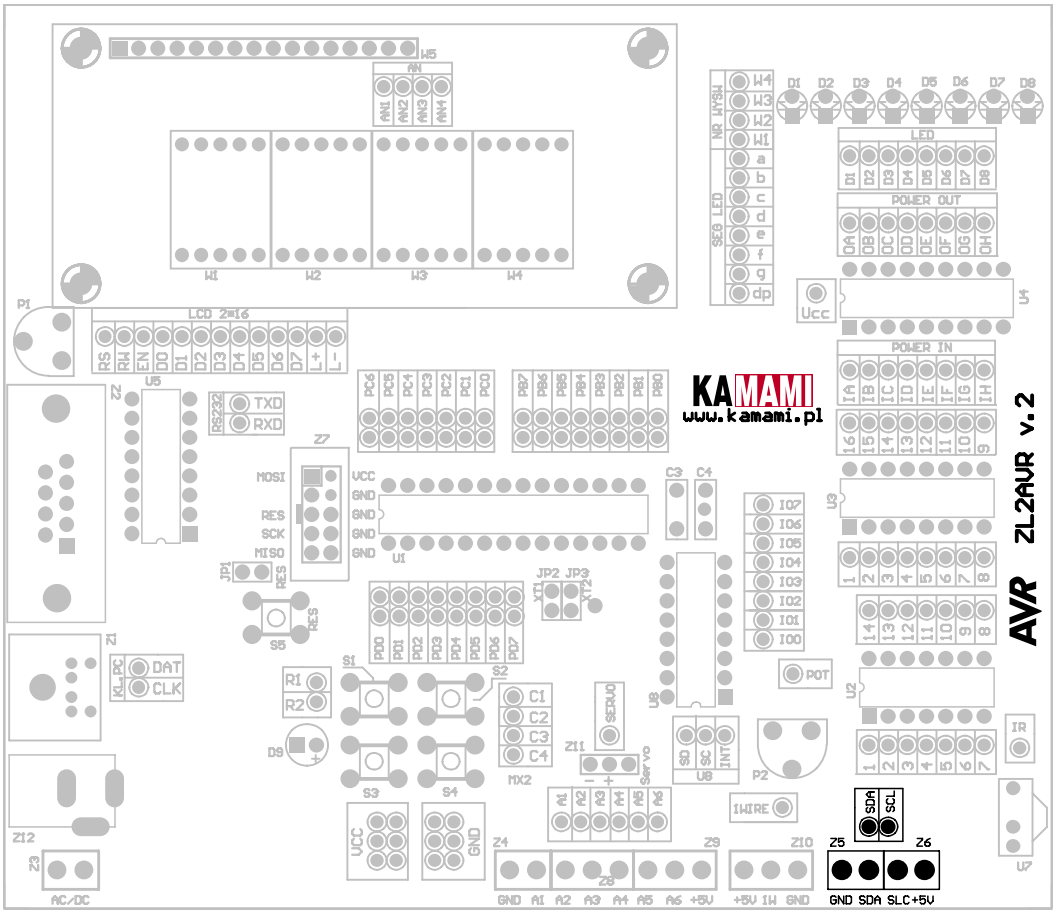
General purpose sockets

The ZL2AVR board provides two general purpose IC sockets for integrated circuits in two DIP packages: 14- and 16-pin.



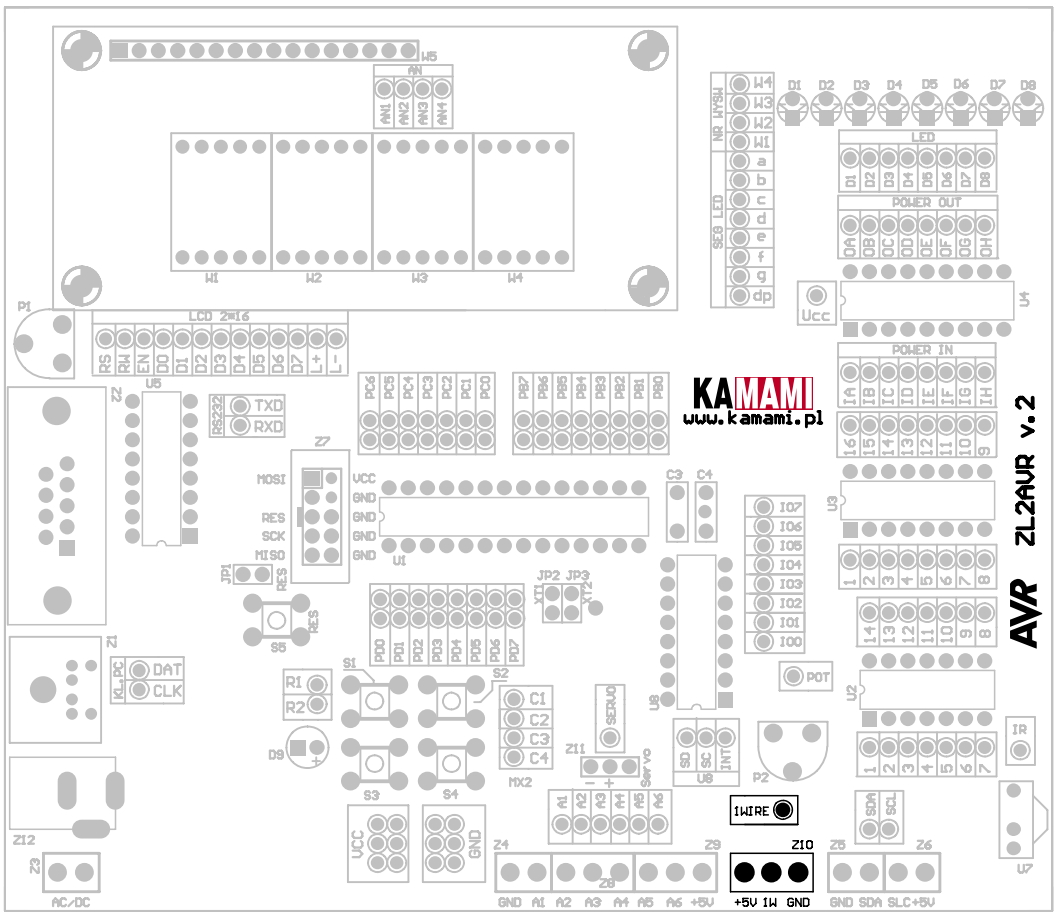
Connectors for external I²C devices

An external devices compatible with I²C bus can be used on ZL2AVR. Z5 and Z6 connectors provide necessary signal connection.



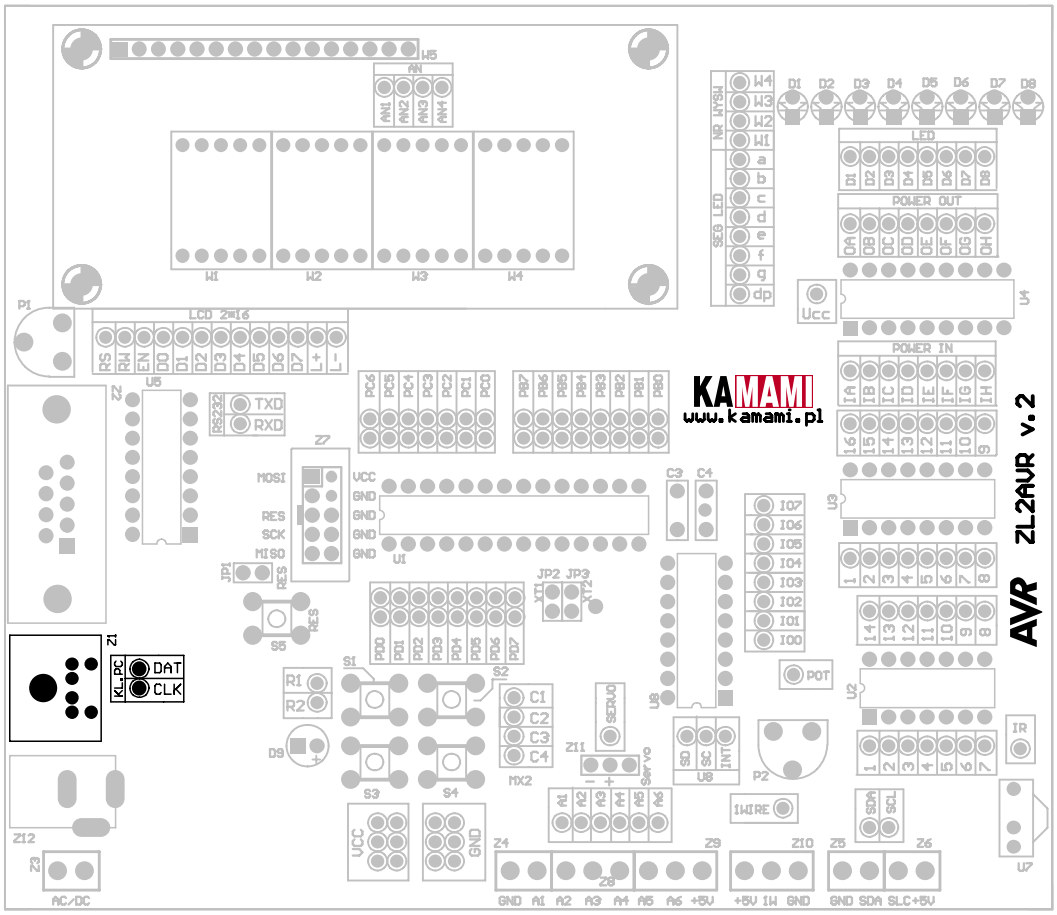
Connector for 1-wire external devices

An external devices compatible with 1-wire bus can be used on ZL2AVR. Z10 connector provides necessary signal connection.



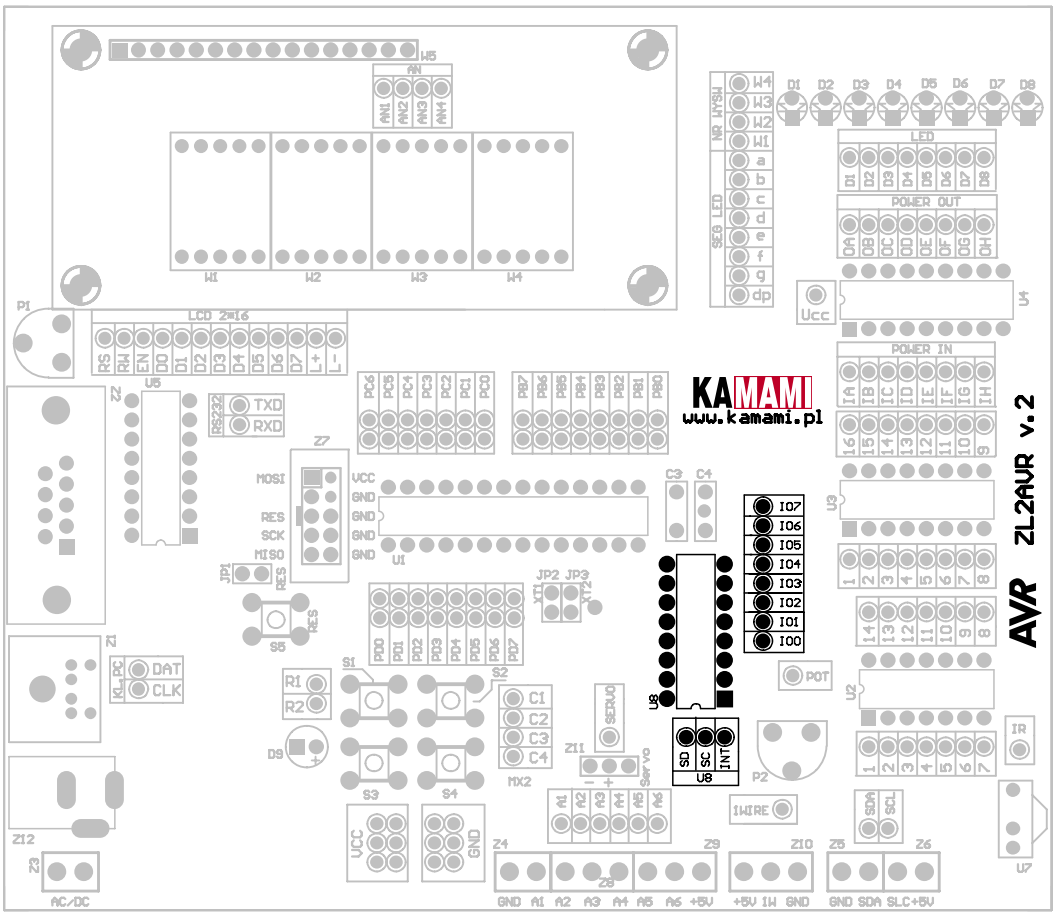
PS/2 keyboard connector

The PS/2 keyboard can be connected to ZL2AVR board through Z1 mini-DIN type connector.



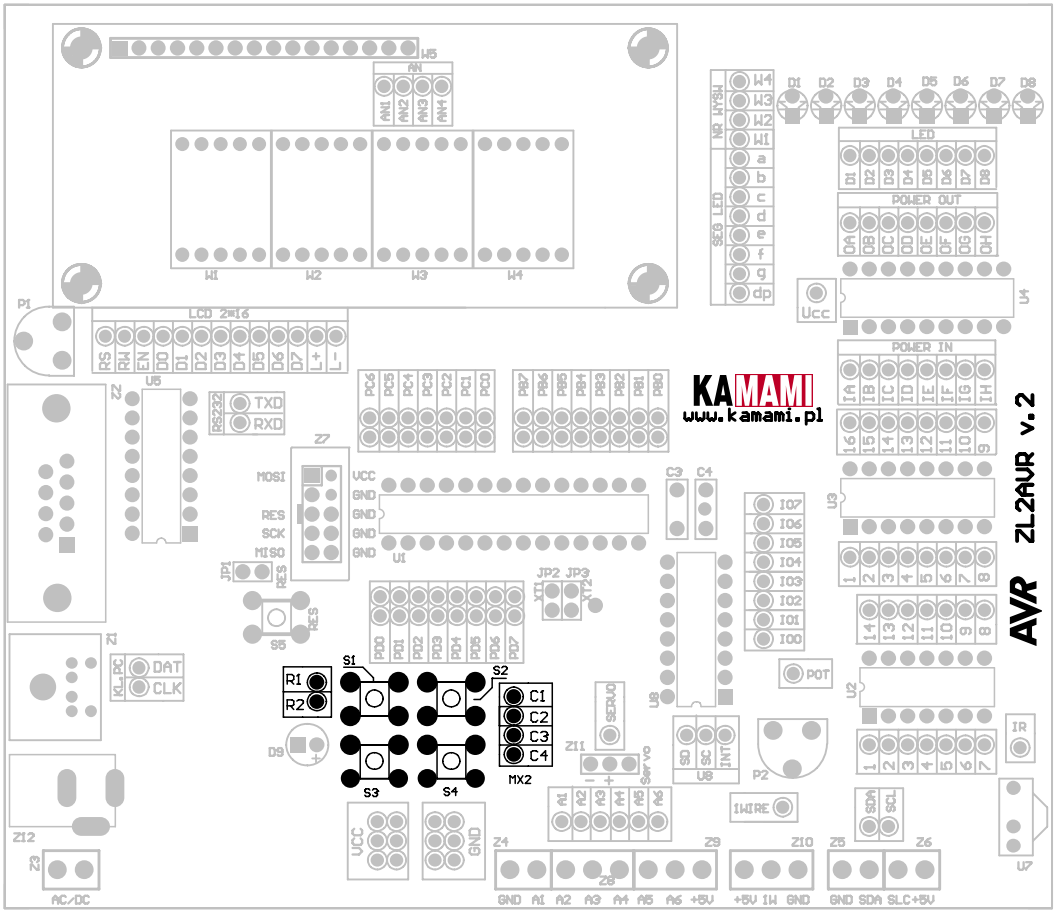
I²C to 8-bit I/O converter

The ZL2AVR board provides single PCF8574 I/O expander with I²C interface.



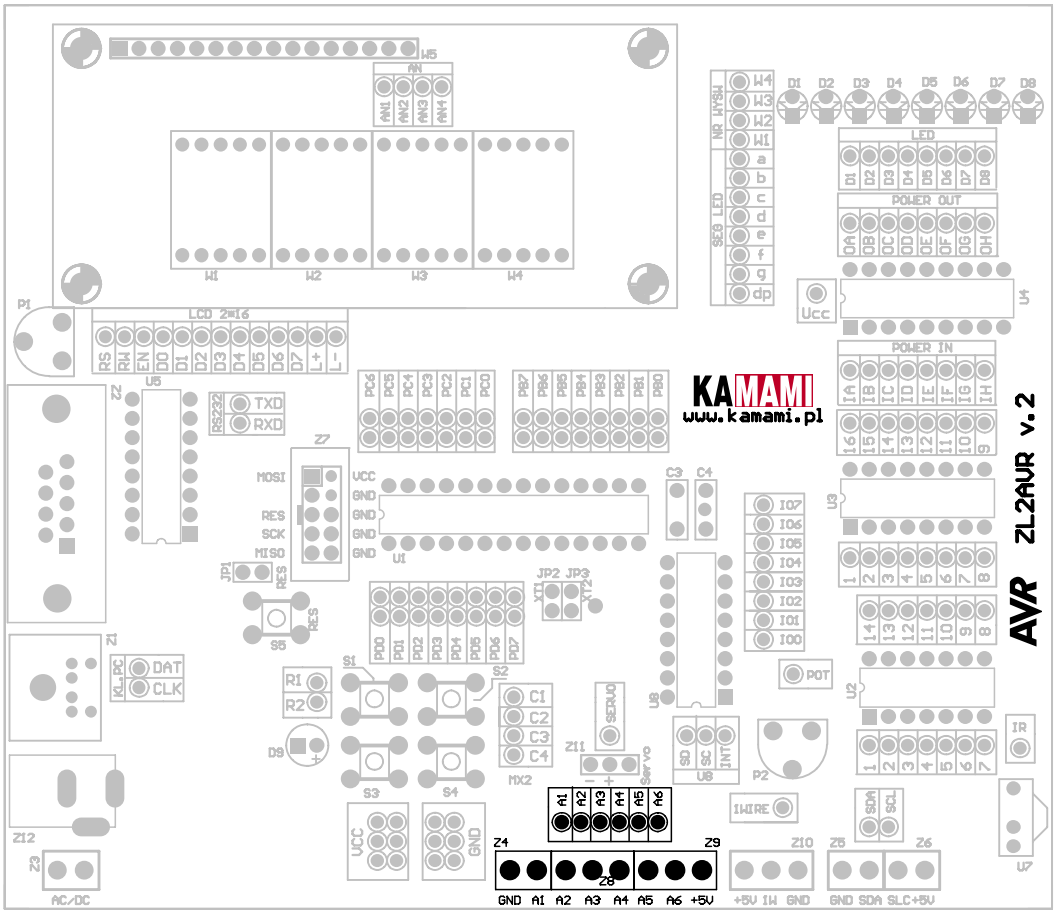
Switches

The ZL2AVR has four general purpose tactile switches.



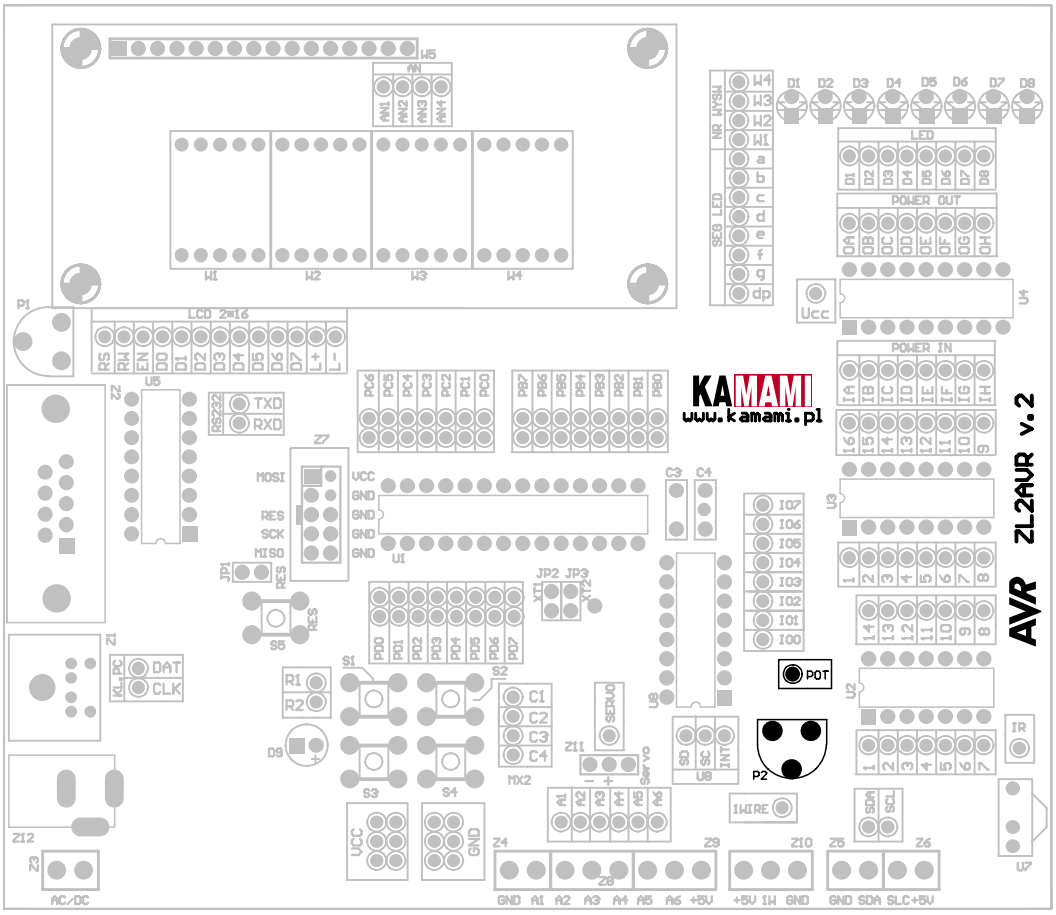
Auxiliary connectors

The ZL2AVR board has 8-pin terminal block for connecting external devices. Two terminals are used for power supply lines while remaining six can be connected to any other pins on the ZL2AVR board depending on application needs.



Potentiometer for supplying variable voltage

The P2 potentiometer can be used to supply variable voltage to any analog input pin of ATmega8 microcontroller.



Servo output

The Z11 connector is dedicated for RC model servomechanism connection.