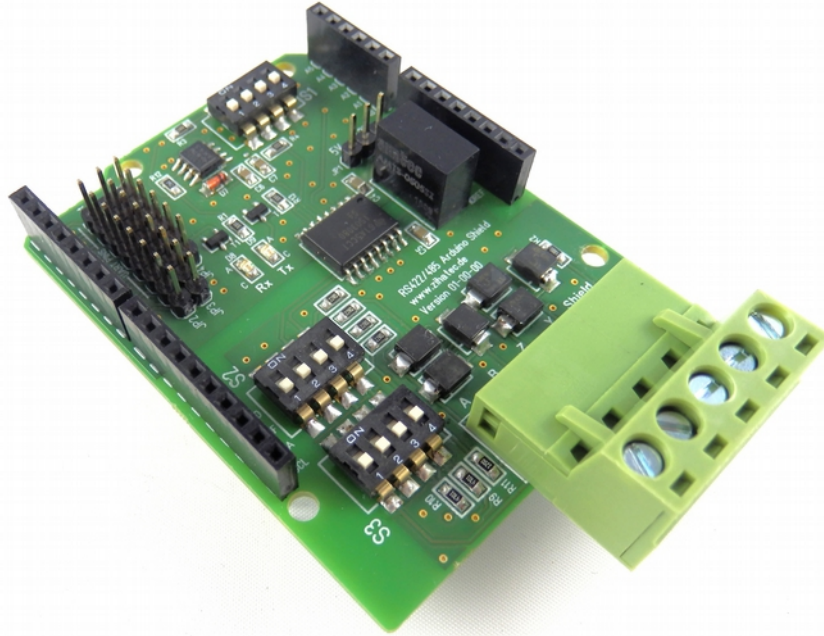


# RS422/RS485 Shield

for Arduino

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## Features:

- RS485 mode (half duplex)
- RS422 mode (full duplex)
- galvanic isolation between Arduino and connected RS485 bus
- Free choice of TX pin between pins 0-5
- Free choice of RX pin between pins 0-5
- Enhanced ESD protection
- adjustable automatic transceiver switching for RS485 mode
- adjustable control of transceiver/receiver via pin 6 or 7
- adjustable Pull-Up, Pull-Down und terminating resistors
- removable block terminal for bus connection
- Indicator LEDs for RX and TX signals
- many options adjustable via DIP switches
- For Arduino UNO and compatible boards

# RS422/RS485 Shield

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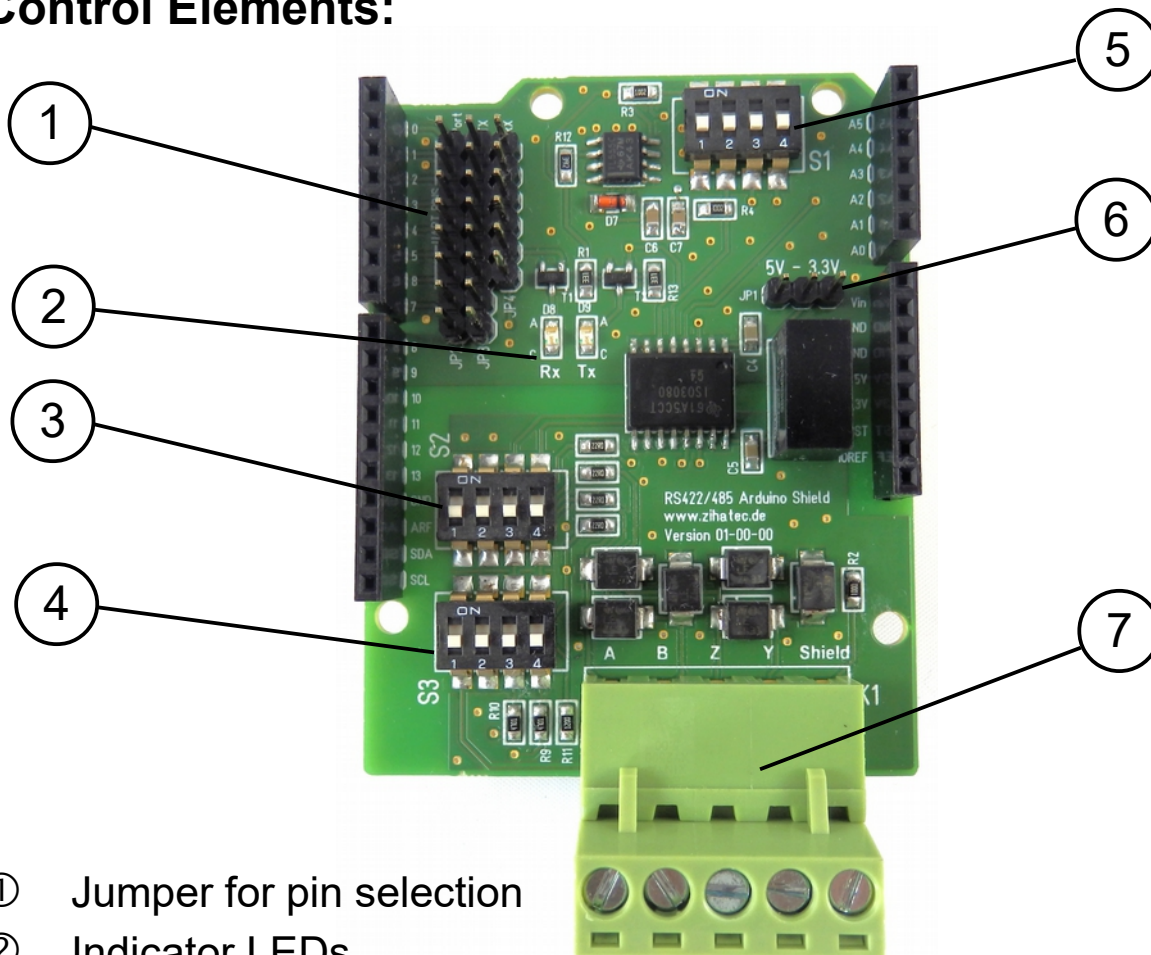
## Applications:

- Smart Home
- Building Control
- Industrial Control
- Lighting Control
- Video Surveillance

## Protocols:

- Modbus
- DMX
- Pelco D
- NMEA0183
- etc

## Control Elements:

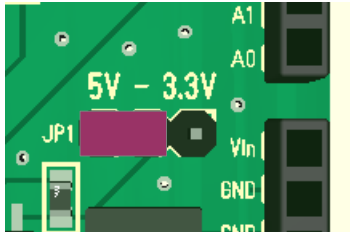


- ① Jumper for pin selection
- ② Indicator LEDs
- ③ DIP Switch S2
- ④ DIP Switch S3
- ⑤ DIP Switch S1
- ⑥ Jumper for voltage selection
- ⑦ Removable Terminal Block

# RS422/RS485 Shield

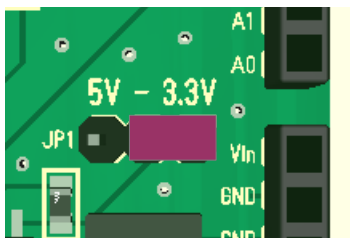
for Arduino

## Jumper J1 – voltage settings:



### 5V Selection

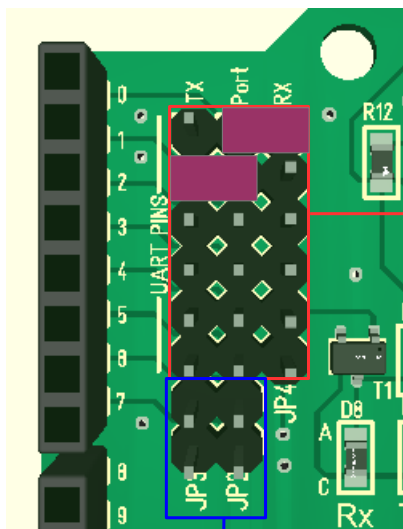
Jumper to left position  
(default for Arduino Uno)



### 3.3V Selection

Jumper to right position  
(for example Genuino 101)

## Jumper J2 – J4 pin settings:



### Connection to Tx & Rx Pin

- Jumper to left position Tx
- Jumper to right position Rx

Default;

- Jumper 1st row right
- Jumper 2<sup>nd</sup> row left

### Tx control Pin

- no jumper: no pin control
- Jumper to 1st row: pin 6
- Jumper to 2<sup>nd</sup> row: pin 7

Default;

- no jumper

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## S1 - DIP Switch Configuration – send/receive control:

Channel	Description
1	Receiver always on
2	Transmitter connected to Receiver
3	Automatic DE/RE control
4	DE/RE control via Pin 6 or 7

## S2 - DIP Switch Configuration – RS422/485 mode:

Channel	Description
1	Connect Y to terminal K2
2	Connect Z to terminal K2
3	Connect internally Y to A
4	Connect internally Z to B

## S3 - DIP Switch Configuration – termination resistors:

Channel	Description
1	120 Ohm Terminating Resistor On
2	Not used
3	4,7k Pull-down Resistor on B
4	4,7k Pull-up Resistor on A

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## Example RS422 mode:

SW1	
1	ON
2	OFF
3	OFF
4	ON *

SW2	
1	ON
2	ON
3	OFF
4	OFF

SW3	
1	ON
2	OFF
3	OFF
4	OFF

## Examples RS485 mode:

Send/receive control via Pin 6 or 7, no terminating resistor

SW1	
1	OFF
2	ON
3	OFF
4	ON *

SW2	
1	OFF
2	OFF
3	ON
4	ON

SW3	
1	OFF
2	OFF
3	OFF
4	OFF

automatic send/receive control, multipoint master

SW1	
1	OFF
2	ON
3	ON
4	OFF

SW2	
1	OFF
2	OFF
3	ON
4	ON

SW3	
1	ON
2	OFF
3	ON
4	ON

\* Set Pin 6 or 7 to high level to transmit protocols