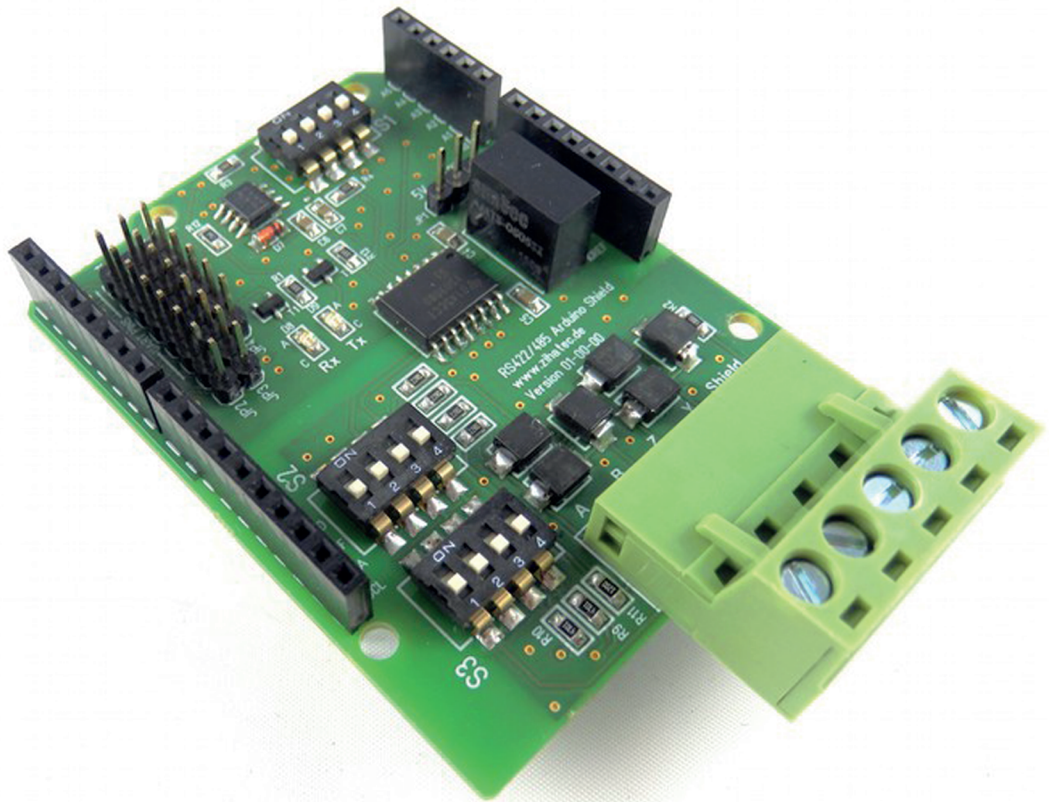


RS422/RS485 Shield für Arduino Datenblatt



Contents:

- 1. Features**
- 2. Applications**
- 3. Protocols**
- 4. Control Elements**
- 5. Jumper J1 – voltage settings**
- 6. Jumper J2 – J4 pin settings**
- 7. S1 - DIP Switch Configuration – send/receive control**
- 8. S2 - DIP Switch Configuration – RS422/485 mode**
- 9. S3 - DIP Switch Configuration – termination resistors**
- 10. Examples RS422 mode**
- 11. Examples RS485 mode**

1. 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 amd compatible boards

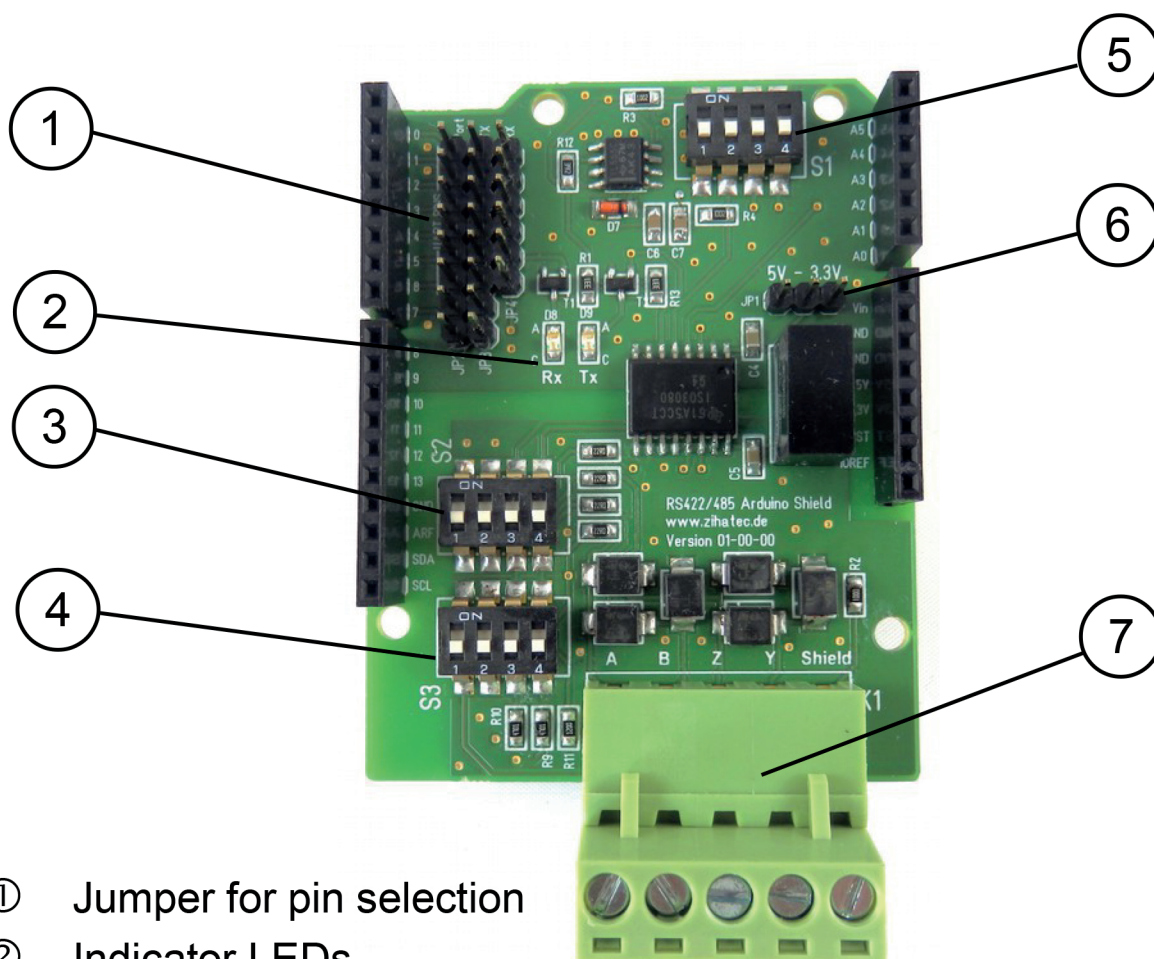
2. Applications

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

3. Protocols

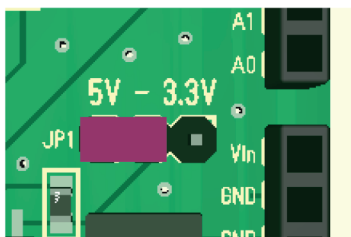
- Modbus
- DMX
- Pelco D
- Profibus
- etc

4. Control Elements



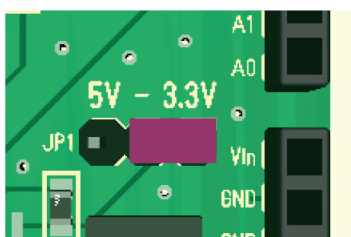
- ① Jumper for pin selection
- ② Indicator LEDs
- ③ DIP Switch S2
- ④ DIP Switch S3
- ⑤ DIP Switch S1
- ⑥ Jumper for voltage selection
- ⑦ Removable Terminal Block

5. Jumper J1 – voltage settings



5V Selection

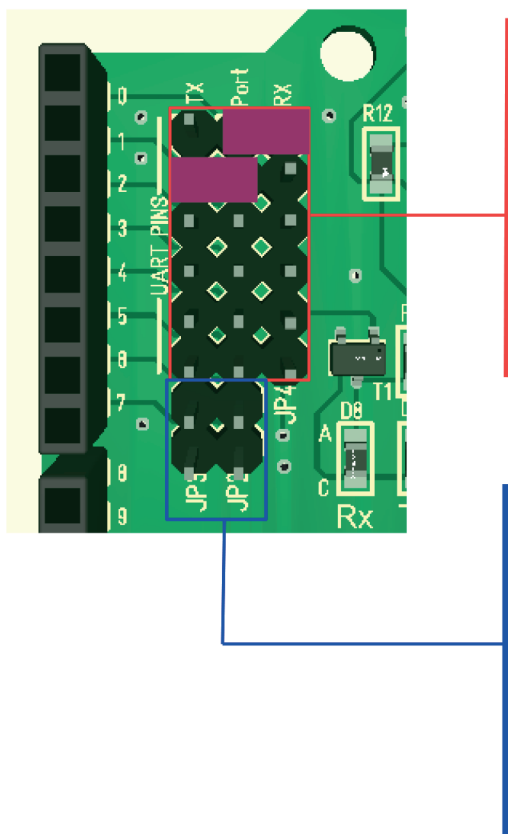
Jumper to left position
(default for Arduino Uno)



3.3V Selection

Jumper to right position
(for example Genuino 101)

6. 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 2nd row left

Tx control Pin

- no jumper: no pin control
- Jumper to 1st row: pin 6
- Jumper to 2nd row: pin 7

Default;

- no jumper

7. 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 |

8. 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 |

9. S3 - DIP Switch Configuration – termination resistors

| Channel | Description |
|---------|-----------------------------|
| 1 | 4k7 Pull-up Resistor on A |
| 2 | 4k7 Pull-down Resistor on B |
| 3 | Not used |
| 4 | Terminating Resistor On |

10. Examples 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 |

11. 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