RS422/RS485 Shield

for Raspberry Pi

Features:

- RS485 mode (half duplex)
- RS422 mode (full duplex)
- galvanic isolation between Raspberry Pi and connected RS485 bus
- Enhanced ESD protection
- adjustable automatic transceiver switching for RS485 mode
- adjustable control of transceiver/receiver via GPIO pin
- 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 Raspberry Pi 2 B, 3 B

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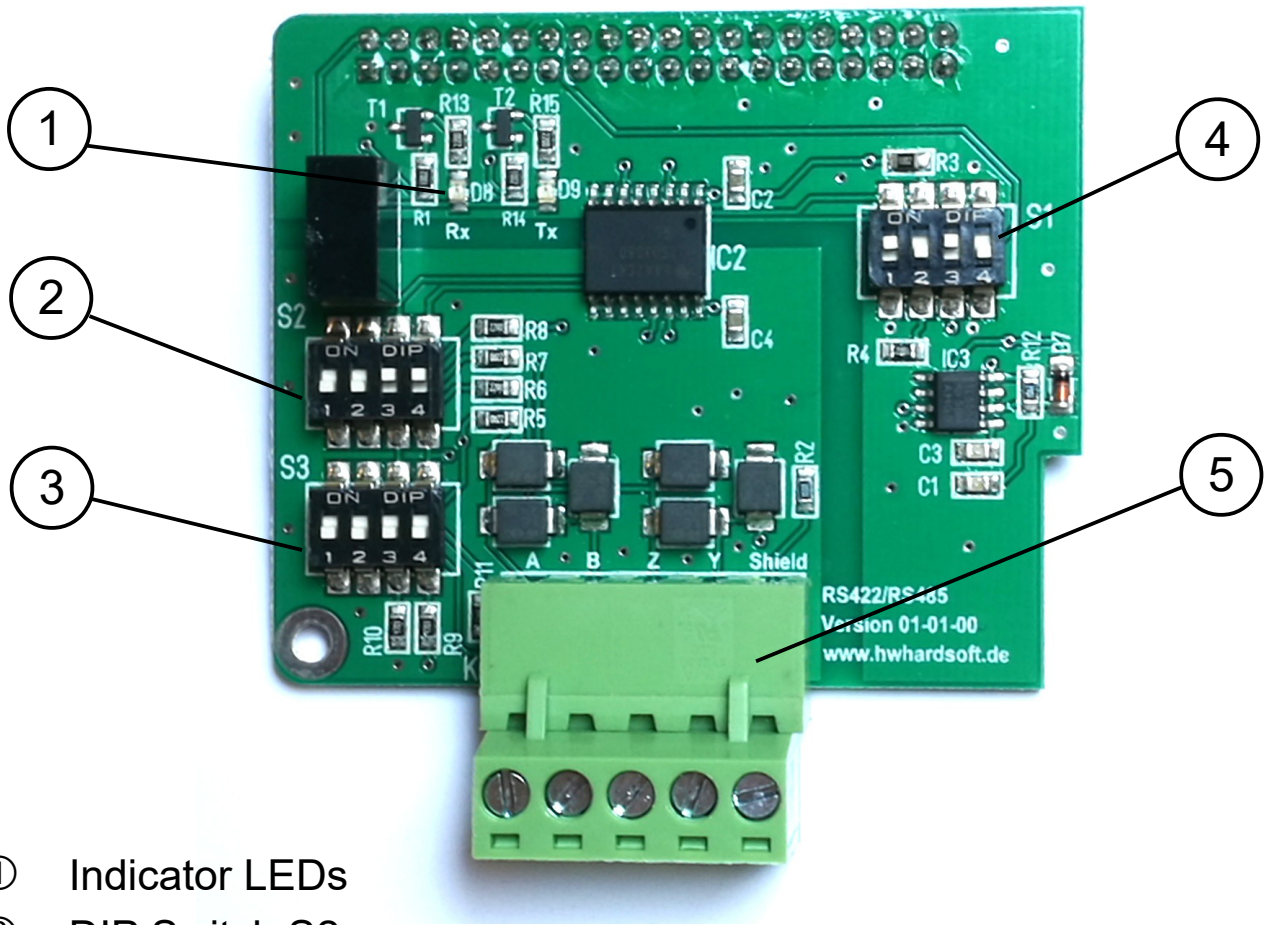
Applications:

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

Protocols:

- Modbus
- DMX
- Pelco D
- Profibus
- etc

Control Elements:



① Indicator LEDs
② DIP Switch S2
③ DIP Switch S3
④ DIP Switch S1
⑤ Removable Terminal Block

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 GPIO18

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

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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 GPIO18, 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 GPIO18 to high level to transmit protocols