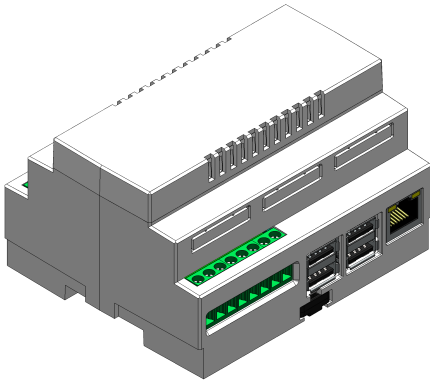


DIN rail mountable enclosure for Raspberry Pi with integrated powersupply

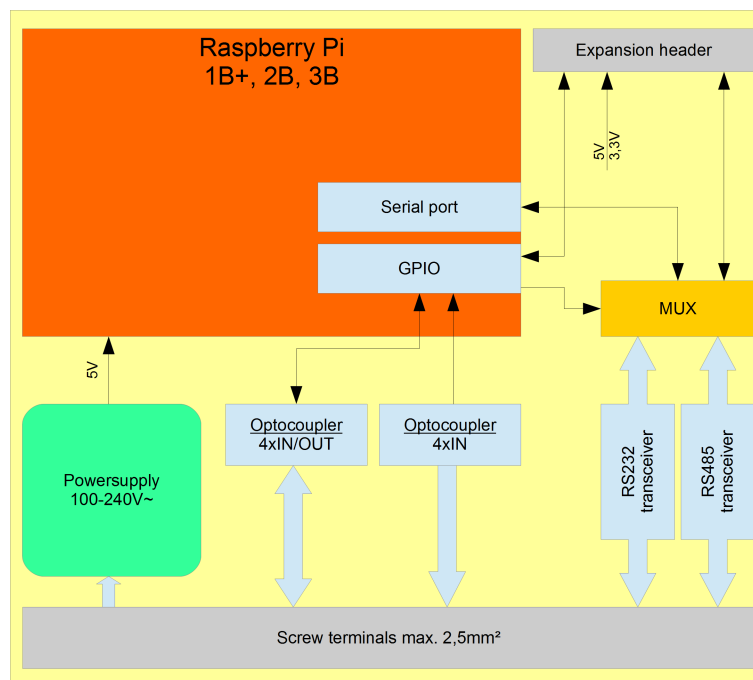


Features

- Integrated 5V/1A or 5V/2A powersupply powered by 100-240V~ 50/60Hz
- Four optocoupled inputs
- Four optocoupled IOs - flexibly configurable as input, open collector output or open emitter output
- RS232 or RS485 transceiver can be routed to the Raspberry Pi's serial port by software
- Prototyping area 28x30mm
- Space for an expansion board 102x64mm
- Mountable on 35mm DIN rail or direct on wall
- Compatible with Raspberry Pi 1B+, 2B and 3B

Overview

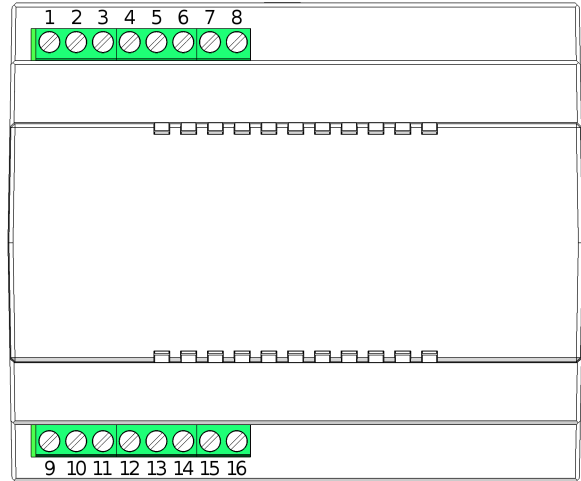
Blockdiagramm of the DinRPi:



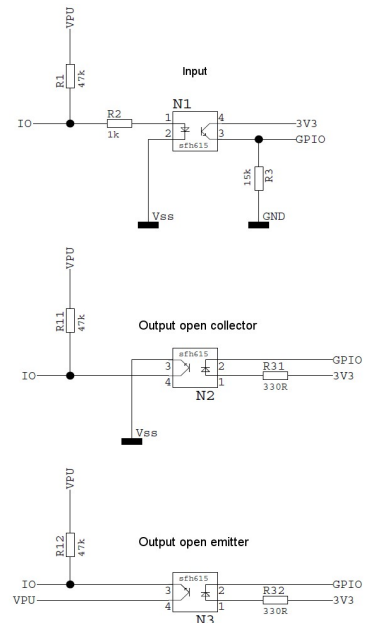
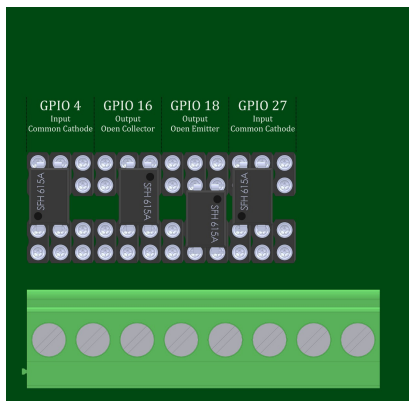
Connections

Max. cable cross-section: 2,5mm² (AWG14)

| Terminal | Signal | Direction | Description |
|----------|--------|-----------|---|
| 1 | AC1 | IN | AC power input 100-240V |
| 2 | AC2 | IN | AC power input 100-240V |
| 3 | Vpu | IN/OUT | Optocoupler positive voltage ¹ |
| 4 | Vss | IN/OUT | Optocoupler negative voltage ² |
| 5 | TxD | OUT | RS232 transmit |
| 6 | RxD | IN | RS232 receive |
| 7 | A | IN/OUT | RS485 line A |
| 8 | B | IN/OUT | RS485 line B |
| 9 | IO4 | IN/OUT | GPIO4 ³ |
| 10 | IO16 | IN/OUT | GPIO16 ³ |
| 11 | IO18 | IN/OUT | GPIO18 ³ |
| 12 | IO27 | IN/OUT | GPIO27 ³ |
| 13 | IN21 | IN | GPIO21 |
| 14 | IN23 | IN | GPIO23 |
| 15 | IN24 | IN | GPIO24 |
| 16 | IN25 | IN | GPIO25 |



- Notes:
- 1: Optocoupler's collector when configured as open emitter output can be connected to +5V via jumper
 - 2: Optocoupler's cathode when configured as input or emitter when configured as open collector output, can be connected to GND via jumper
 - 3: Can be configured as input, open collector output or open emitter output, see figure below:

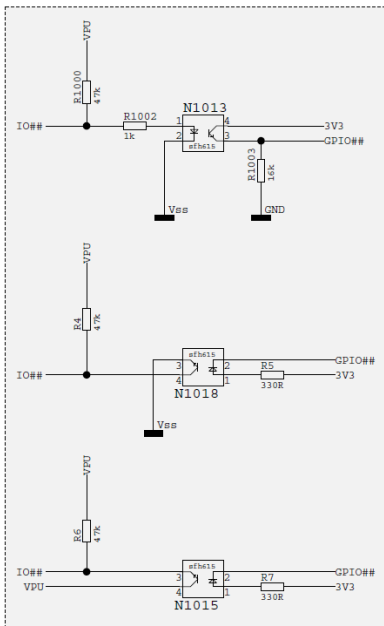
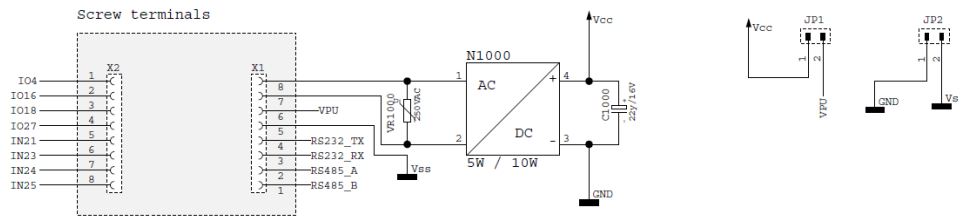


Electrical specifications

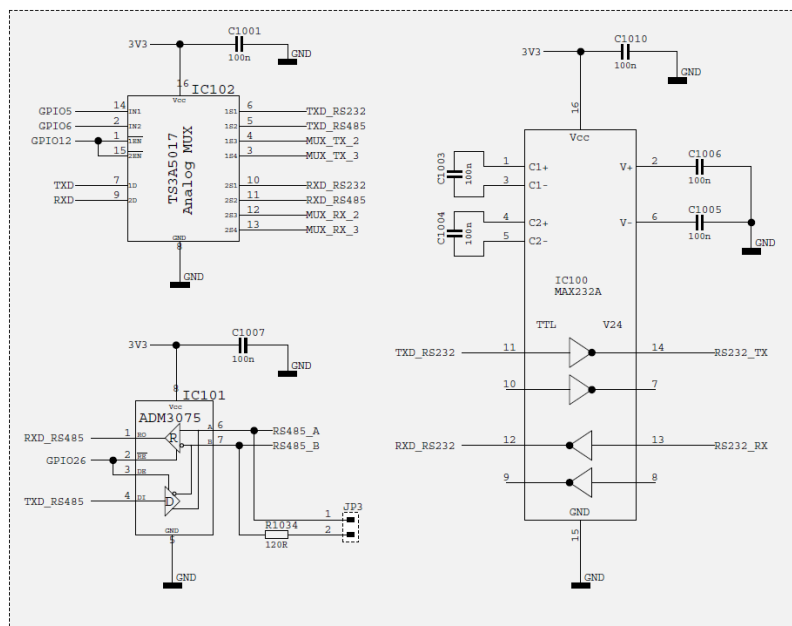
| | |
|---|-------------------------------|
| Power input | 100-240V~ 50/60Hz |
| Powersupply for the Raspberry Pi | 5V 1A/2A depending on version |
| Collector current (opto out) ⁴ | 50mA |
| Collector emitter voltage (opto out) ⁴ | 70V |
| Forward voltage (opto in) ⁴ | 1.35V |
| Isolation voltage (opto in/out) ⁴ | 5300V _{RMS} |

Notes: 4: For more details refer to SFH615A datasheet

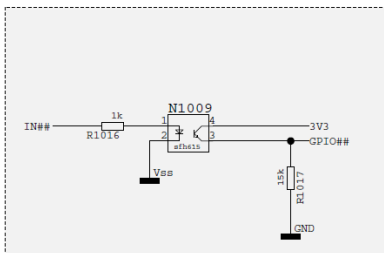
Schematic



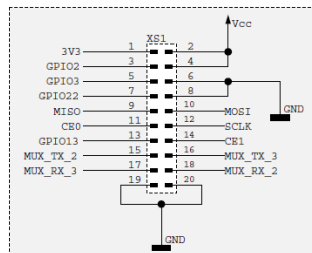
Possible IO configurations for GPIO4, GPIO16, GPIO18 and GPIO27



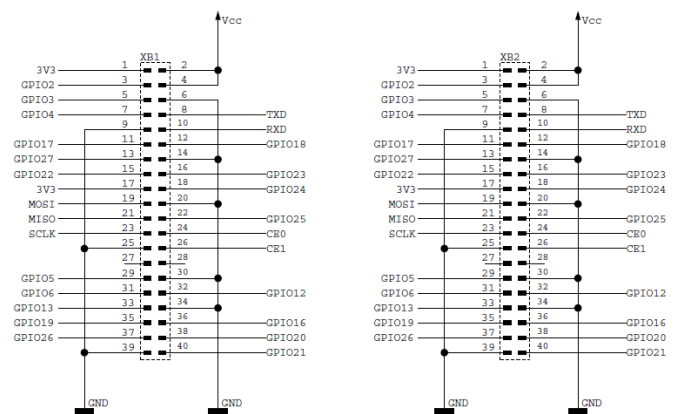
Serial communication



Input schematics for GPIO21, GPIO23, GPIO24 and GPIO25



Expansion header



Raspberry Pi connector