# Adapter deRFtoRCB

## ZigBee® / 6LoWPAN / RF4CE / WirelessHart

- The adapter deRFtoRCB is intended for fast start-up and stand-alone operation of dresden elektronik's deRFmega radio module range and offers RCB functionality.
- Programming is made over the 10 pin JTAG interface. The 6 pin connector offers a TTL-level UART for serial communication and can be attached directly to a PC using the RS232 level shifter. On the back of the adapter are two 30 pin I/O-Connectors according to the RCB interface. A possible application is the use with a Sensor Terminal Board.
- All deRFmega radio modules can be simply attached to the 23 pin female connector. For stand-alone operation a battery box for 2 AAA batteries is intended.
- The control and display elements are connected to the appropriate port pins just as at any RCB module.


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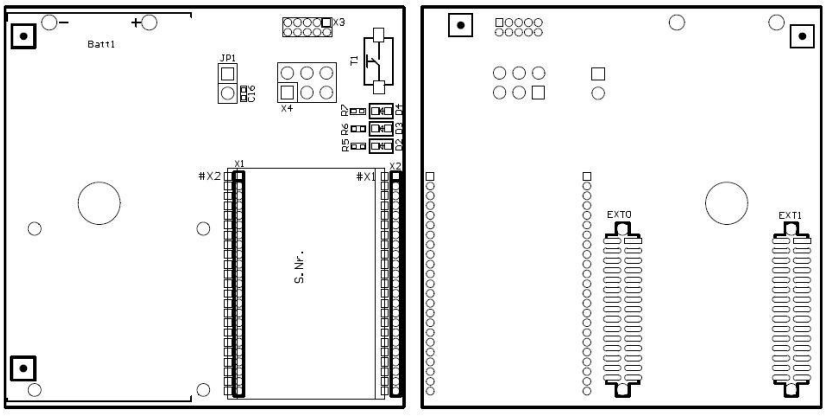
## Technical Data

**Technical Data**

| | |
|---|---|
| **Dimensions** | 52 x 52 mm |
| **Control and display elements** | 3 x LED (red)<br>1 x Button |
| **Power supply** | 2 AAA batteries (1.8 – 3.6V) |
| **Power consumption** | Depending on plugged radio module |
| **Connections** | 2 x 23 Pin Connector (for deRF radio modules)<br>2 x 30 Pin I/O Connector (for STB)<br>1 x 10 Pin Connector (JTAG)<br>1 x 6 Pin Connector (UART) |
| **Interfaces** | 1 x JTAG, 1 x UART |

## Overview

**Overview**




Top View | Bottom View

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**Contact**

## Pin Configurations

**Connections**

| X1 | | | | X2 | | | |
|---|---|---|---|---|---|---|---|
| 1: | DGND | 13 | PD7/T0 | 1: | VCC | 13 | PF1/ADC1 |
| 2: | DGND | 14: | PD3/TXD1 | 2: | DGND | 14: | PE6/T3 |
| 3: | PB5 | 15: | PD1/SDA | 3: | PE0/RXD0 | 15: | PF4/TCK |
| 4: | PB7 | 16: | PG5 | 4: | PD2/RXD1 | 16: | PE7 |
| 5: | PB4 | 17: | PD0/SCL | 5: | PE1/TXD0 | 17: | PF5/TMS |
| 6: | PB6 | 18: | PG2 | 6: | PD6/T1 | 18: | PF2/ADC2 |
| 7: | PB3/MISO | 19: | RSTN | 7: | PE2/XCK0 | 19: | PF6/TDO |
| 8: | PB0 | 20: | PG1 | 8: | PE3 | 20: | RSTON |
| 9: | PB2/MOSI | 21: | AREF | 9: | PD4 | 21: | PF7/TDI |
| 10: | CLKI | 22: | DGND | 10: | PE4 | 22: | DGND |
| 11: | PB1/SCK | 23: | VCC | 11: | PF0/ADC0 | 23: | DGND |
| 12: | PD5/XCK1 | | | 12: | PE5 | | |

| EXT0 | | | | EXT1 | | | |
|---|---|---|---|---|---|---|---|
| 1: | PB6 / PCINT6 | 2: | PB7 | 1: | PB1 / SCK | 2: | DGND |
| 3: | RSTN | 4: | Vcc | 3: | PE7 | 4: | PE6 |
| 5: | DGND | 6: | XTAL2 | 5: | PE5 | 6: | PE4 |
| 7: | XTAL1 | 8: | DGND | 7: | PE3 | 8: | PE2 |
| 9: | PD0 | 10: | PD1 | 9: | PE1 / MISO | 10: | PE0 / MOSI |
| 11: | PD2 | 12: | PD3 | 11: | AGND | 12: | AREF |
| 13: | PD4 | 14: | PD5 | 13: | PF0 | 14: | PF1 |
| 15: | PD6 | 16: | PD7 | 15: | PF2 | 16: | PF3 |
| 17: | PG0 | 18: | PG1 | 17: | PF4 | 18: | PF5 |
| 19: | DGND | 20: | DGND | 19: | PF6 | 20: | PF7 |
| 21: | PC0 | 22: | PC1 | 21: | Vcc | 22: | DGND |
| 23: | PC2 | 24: | PC3 | 23: | PA0 | 24: | PA1 |
| 25: | PC4 | 26: | PC5 | 25: | PA2 | 26: | PA3 |
| 27: | PC6 | 28: | PC7 | 27: | PA4 | 28: | PA5 |
| 29: | DGND | 30: | PG2 | 29: | PA6 | 30: | PA7 |

## Scope of delivery

**Scope of delivery**

deRFtoRCB — article no. 28216

## Accessories (optional)

**Accessories (optional)**

JTAG adapter — article no. 27863
RS232 level shifter — article no. 28560

## Development Boards

Sensor Terminal Board — article no. 26533

## Development Kit

deRFdevelopment Kit RFmega128 — article no. 28388

## Radio module versions

Radio module deRFmega128-22A001 — article no. 28182
Radio module deRFmega128-22A021 — article no. 28498

*Order online: http://www.dresden-elektronik.de/shop/cat4.htm*



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