

# Wireless Networking Controller Module MOD\_030II

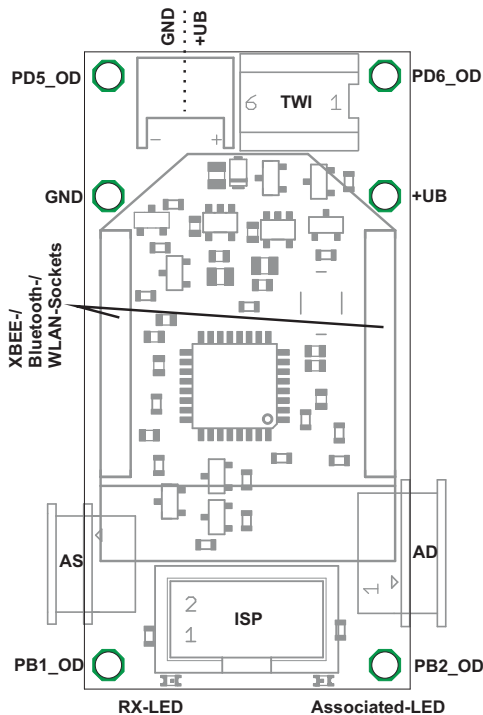
PRELIMINARY

May 10, 2013

## 1 Features

- WLAN-/Bluetooth-/XBee mountable
- uControllermodule based on Atmega168
- TWI Bus
- Standard AVR ISP Connector
- Four Open-Drain Outputs (2 A)
- CAN connectable
- Modularis TWI connector
- Modularis AS connector enables analog freedom
- Modularis AD connector enables digital freedom
- Powerconnector S2B-PH-SM4-TB from JST

## 2 Brief Description



1: MOD\_030

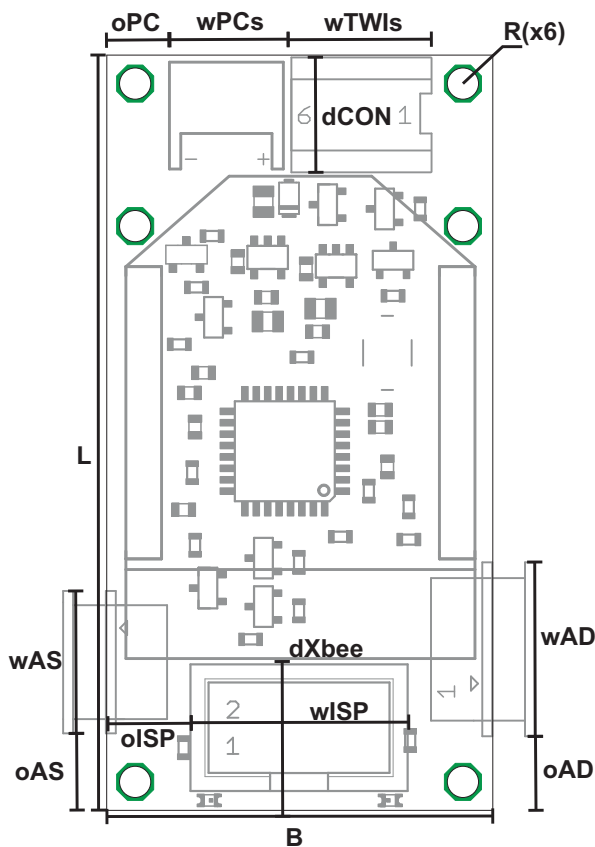
The MOD\_030 is the wireless communication module in the standard Modularis family based on an Atmega168 AVR microcontroller. Due to XBee-compatible WLAN and Bluetooth shields<sup>a</sup>, it is a highly versatile module for telemetry or remote control tasks. In addition, it enables the use of a smartphone for human-machine interface tasks. For switching loads with currents of up to 2 A, four open drain outputs<sup>b</sup> are integrated into the four corner mounting holes. Included are the typical Modularis connectors AS and AD, a TWI connector, and an ISP header for programming. Power may be supplied by a battery (3.7-12 V) connected to either the 2-Pin JST-PH connector or via M2 ring terminals and screws to supplied holes in the PCB. In addition, the typical Modularis reverse polarity protection feature is available when powering the module from another +5V source (e.g. a MOD\_020) via the TWI Connector.

<sup>a</sup>for more informations visit [www.aevum-mechatronik.de/shop](http://www.aevum-mechatronik.de/shop) browse for articles AE0939 and AE0872

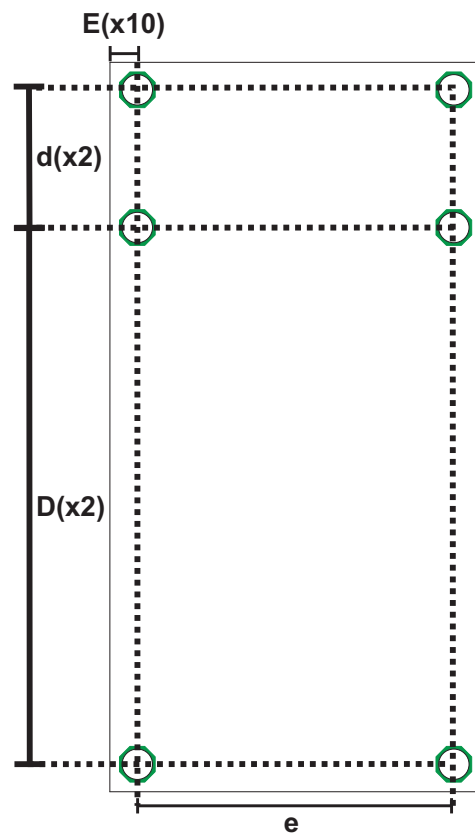
<sup>b</sup>PB1\_OD, PB2\_OD, PD5\_OD and PD6\_OD

## 3 Mechanical Dimensions

Symbol	Einheit	Wert	Kommentar
B	mm	27	Width of module's PCB
L	mm	53	Length of module's PCB
dXbee	mm	10.5	edge distances of Xbee shield to MOD_030
oAS	mm	5.4	offset Analog Sensor Connector
wAS	mm	10	width Analog Sensor Connector
oAD	mm	5	offset Adaptor Digital Connector
wAD	mm	12.2	width Analog Digital Connector
oISP	mm	5.8	offset AVR ISP Connector
wISP	mm	15.5	width AVR ISP Connector
oPC	mm	4.5	offset Power Connector
wPCs	mm	8.5	width Power Connector section
wTWIs	mm	10	width TWI Connector section
dCON	mm	8.5	distance Connectors to upper short edge
R	mm	1.1	Radius of mounting holes, suitable for M2 screws
d	mm	10	distance center points of upper mounting and supply holes
D	mm	39	distance center points of lower mounting and supply holes
e	mm	23	distance between mounting holes in short edge direction
E	mm	2	distance center point of hole to nearest PCB edge



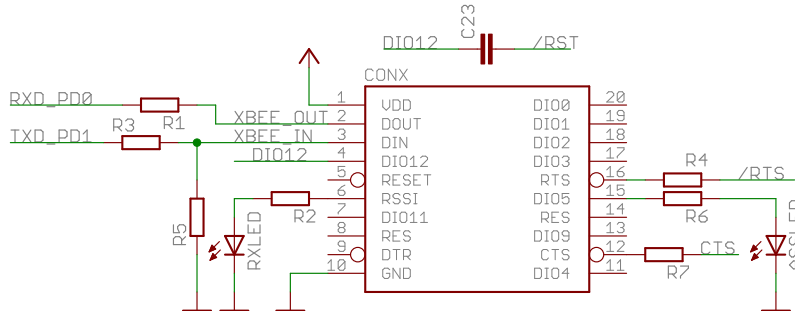
2: Positions of Connectors



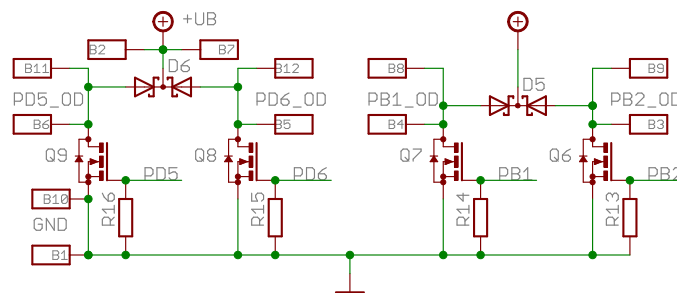
3: Position of Mounting Holes

## 4 Schematics

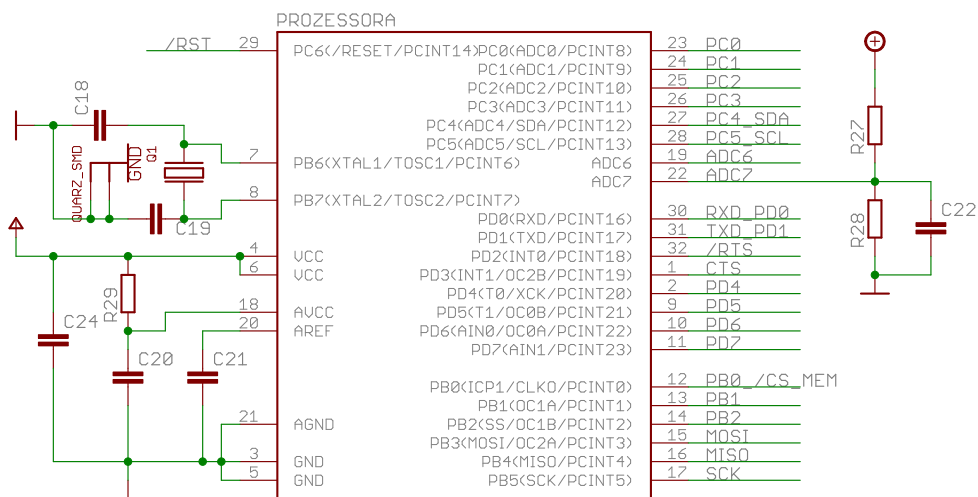
### XBEE/BLUETOOTH/WLAN



### CORNER HOLE OPEN DRAIN STAGES

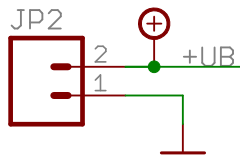


### MICROCONTROLLER

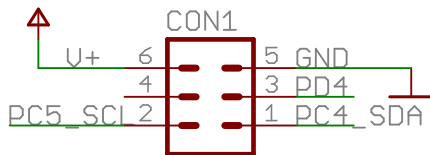


4: Controller, XBee, Power-Stages

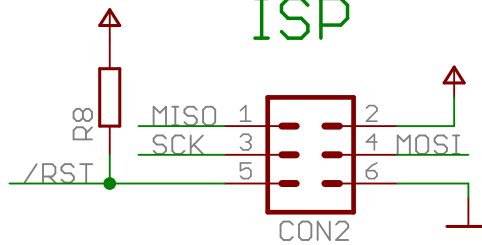
## POWER



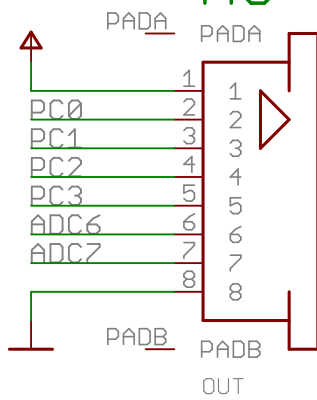
## TWI



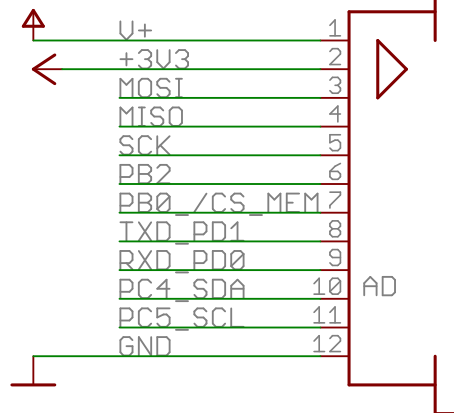
## ISP



## AS



## AD



5: pin assignment of the connectors

## 5 Coming soon, Accessory and contact

### 5.1 Coming soon

The diversity of the module will ultimately be enriched by the following upcoming accessories:

- 16 Bit 100kSps ADC module for AD Interface
- CAN-Controller for AD-Interface
- Servo-Shield

### 5.2 Accessory

- AS Sensor modules for AS-Connector - plug and measure!
- AD Adaptor digital modules
- WLAN Shield AE0939
- Bluetooth Shield AE0540
- XBee Shield AE0351
- Power-Connector Type S2B-PH-SM4-TB

### 5.3 Support

For questions, innovations or any other support issue feel free to contact us:

[kundenservice@aezum-mechatronik.de](mailto:kundenservice@aezum-mechatronik.de)