



## Component Description

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# 1 Introduction

This manual describes the ChipCoin read/write module PitBase TWN4 with the S&B article no. 04 38882 0.



Fig. 1: PitBase TWN4

## 1.1 Range of Application

The PitBase TWN4 is a hardware interface for encoding and evaluation of HITAG based ChipCoins and transponder cards.



*PitBase TWN4 is used exclusively in Scheidt & Bachmann devices.*

## 1.2 Safety



*Electrostatically endangered parts! Do not touch connection points!  
Installed components may contain electrostatically endangered parts (ESD).  
When working on the module, please take measures to protect against ESD!*

## 2 Module Description

### Components

- TWN4 Core-Module (Elatec)
- S&B base board

The PitBase TWN4 has a power connector, a serial interface for the connection of a single board computer (EPR) or a manual sales device and two antenna connectors.

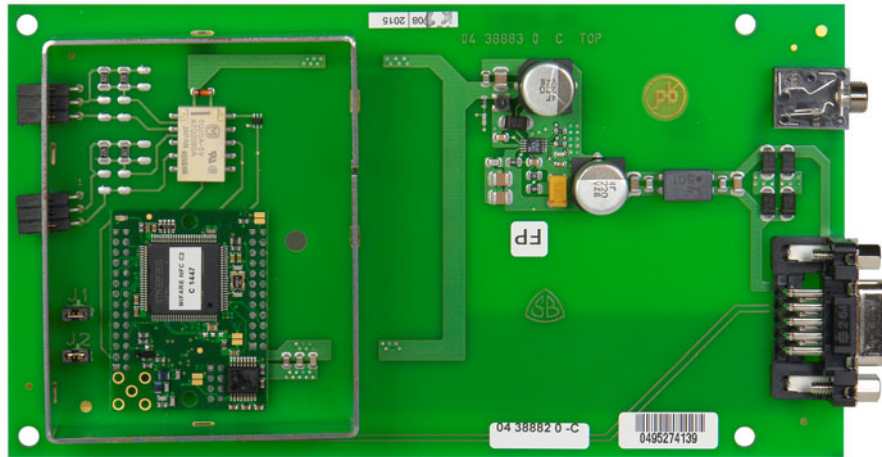


Fig. 2: PitBase TWN4 – top with the cover removed

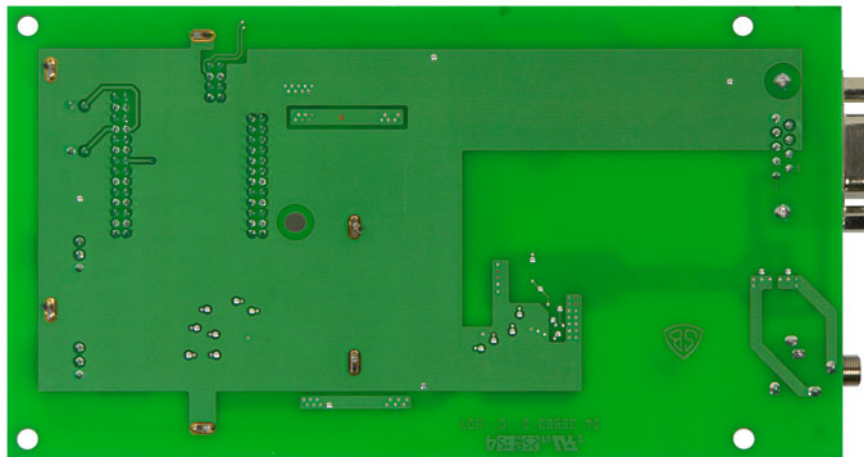


Fig. 3: PitBase TWN4 - bottom



Fig. 4: RS232 interface and power connector

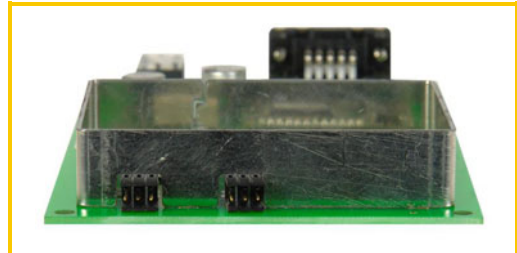


Fig. 5: Antenna connectors

## 2.1 Block Diagram

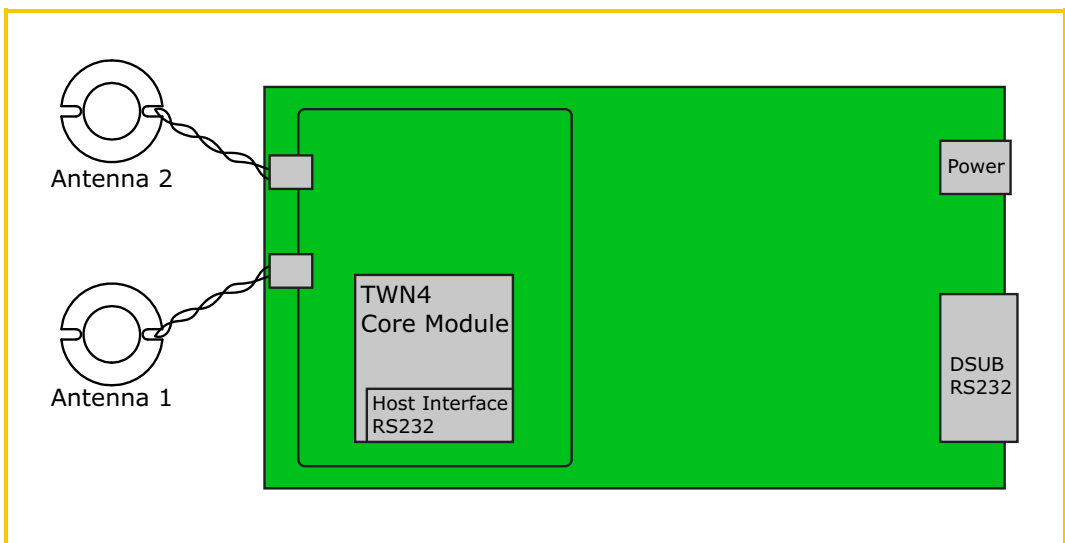


Fig. 6: Block diagram



## 2.2 Antenna Connection

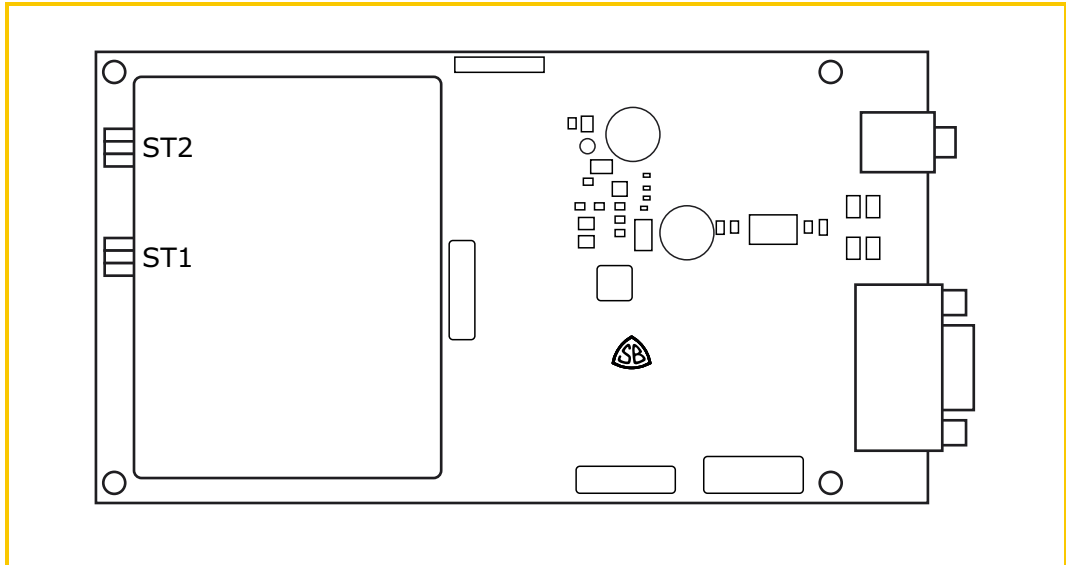


Fig: Antenna connection

There are 7 connection options for the two antenna connectors.



*If antennas are connected to both antenna connectors, an automatically cycled switching between both connectors takes place (e.g. every 5 seconds / configurable).*

### Connection option 1:

Connection terminal ST1: 1 x antenna 0420830 0 (air-core coil 30x30 490 $\mu$ H)  
Connection terminal ST2: not used

### Connection option 2:

Connection terminal ST1: 1 x antenna 0423652 0 (air-core coil 30x30 490 $\mu$ H)  
Connection terminal ST2: not used

### Connection option 3:

Connection terminal ST1: 1 x antenna 0434483 0 (air-core coil 30x60 490 $\mu$ H)  
Connection terminal ST2: not used

### Connection option 4:

Connection terminal ST1: 1 x antenna 04378230 (air-core coil 30x60 490 $\mu$ H)  
Connection terminal ST2: not used

### Connection option 5:

Connection terminal ST1: 1 x antenna 0423652 0 (air-core coil 30x30 490 $\mu$ H)  
Connection terminal ST2: 1 x antenna 04184530 (air-core coil  $\varnothing$ 30 490 $\mu$ H)

### Connection option 6:

Connection terminal ST1: 1 x antenna 0420830 0 (air-core coil 30x30 490 $\mu$ H)  
Connection terminal ST2: 2 x antenna 0418532 0 connected in parallel (air-core coil  $\varnothing$ 30 980 $\mu$ H)

**Connection option 7:**

Connection terminal ST1: 2 x antenna 0431701 0 connected in parallel (air-core coil 30x30 980 $\mu$ H)

Connection terminal ST2: not used

## 2.3 FCC Information

**FCC ADDENDUM**

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) this device may not cause interference, and
- (2) this device must accept any interference, including interference that may cause undesired operation of the device.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

**IC-CANADA-ADDENDUM**

This device complies with Industry Canada licence-exempt RSS standard(s). Operation is subject to the following two conditions:

- (1) this device may not cause interference, and
- (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes :

- (1) l'appareil ne doit pas produire de brouillage, et
- (2) l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

## 2.4 FCC Label

The FCC label on the PCB provides information on the approval number:

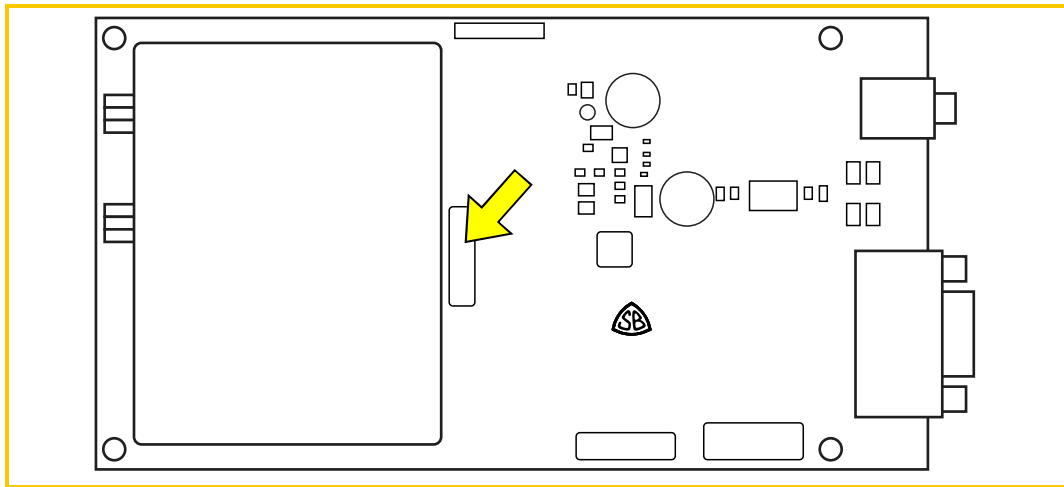


Fig. 7: PitBase TWN4 – FCC Label



FCC ID: 05K-PITBASETWN4 / IC: 8312A-PITBASETWN4



The device that contains the PitBase TWN4 must contain the following wording in its user manual:

Contains FCC ID: 05K-PITBASETWN4

Contains IC: 8312A-PITBASETWN4

## 2.5 Technical Specifications

General technical data	
Supported media:	<input type="checkbox"/> HITAG-1 transponder (125 kHz) <input type="checkbox"/> HITAG-S2048 transponder (125 kHz)
Connectors:	<input type="checkbox"/> 2 x antenna coil <input type="checkbox"/> Power connection via 3.5mm jack connector <input type="checkbox"/> RS232 interface
Operating voltage:	12 V DC $\pm$ 20 %
Current consumption:	approx. 100 mA
Read/write antennas:	<input type="checkbox"/> 2 connectors <input type="checkbox"/> Inductance: 490 $\mu$ H per connector <input type="checkbox"/> approx. 3 cm read/write distance
Dimensions:	approx. 165 mm x 87 mm x 20 mm
Weight:	approx. 158 g
Temperature range:	-25°C to +80°C
Relative humidity:	$\pm$ 0 % ... 95 % (non-condensing)

## 3 Disposal



Packaging materials must be disposed of according to local regulations.



This marking shown on the product or its literature, indicates that it should not be disposed with other household wastes at the end of its working life. To prevent possible harm to the environment or human health from uncontrolled waste disposal, please separate this from other types of wastes and recycle it responsibly to promote the sustainable reuse of material resources.



Disposing of batteries into household garbage is not permitted; you are bound by law to return used batteries. Used batteries can contain harmful substances which can damage the environment or your health when not disposed of correctly. Batteries also contain important commodities such as iron, zinc, manganese or nickel which will be recycled. You may send the used batteries back to us, or you can return them to your local recycling center free of charge (recommended). The symbol of the crossed waste container is a warning against disposing of hazardous materials into household garbage.

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