

***amanTag***<sup>®</sup>

**compact  
Wiring & Installation  
Instructions**

V04/09/07

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deister electronic GmbH  
Hermann-Bahlsen Str. 11  
30890 Barsinghausen  
Germany  
Phone: +49 (0) 51 05 - 51 61 11  
Fax: +49 (0) 51 05 - 51 62 17  
E-Mail: [info@deister-gmbh.de](mailto:info@deister-gmbh.de)  
Web: [www.deister.com](http://www.deister.com)

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## 1. General Information

- An amanTag compact-Reader generates an undirected field in an area up to 3 meters. In a vertical line to the reader the reading range is up to 8 meters.
- An amanTag compact-Reader is able to recognize several transponders being in the reader-field at the same time.
- The reading range can be varied gradually.
- For exchange of data a Wiegand or RS 485 Interface can be used.

## 2. Technical Data

### Meets EN(I-ETS) 300220

<b>Dimensions (mm):</b>	296 x 296 x 28
<b>Transmission frequency:</b>	8,1 kHz
<b>Receiving frequency:</b>	433 MHz ISM-band
<b>Modulation:</b>	PSK
<b>Baud-rate in reading:</b>	1500 Baud
<b>Sensibility:</b>	-100dBm
<b>Reading distance:</b>	up to 8 m, depending on the type of transponder
<b>Field strength in 8m distance:</b>	99 dB $\mu$ V/m average , 102 dB $\mu$ V/m peak
<b>Interface:</b>	Wiegand, RS485
<b>Voltage supply:</b>	24V (18V...30V)

## 3. Operation

Two different frequency ranges are used to communicate with the transponder. The activating of a transponder and data exchange to the transponder takes place within a low frequent 8,1 kHz-field. Data exchange from the transponder to the reader takes place at 433 MHz.

As soon as a transponder is brought into the working range of the low frequent field, it will be activated and recognized by the reader.

The transponder stays in direct contact with the reader as long as it is located in the working range of the low frequent field.

## 4. Wiring & Configuration

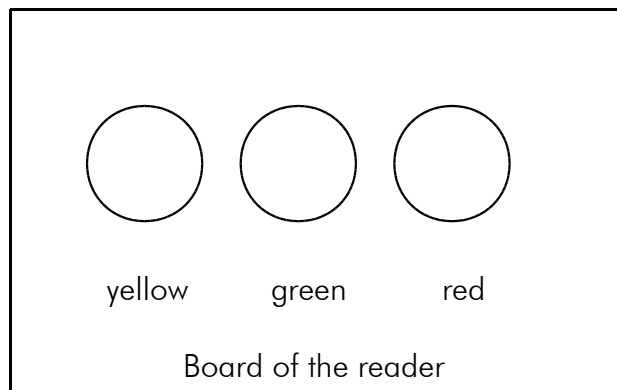
### 4.1 Optical display

An amanTag compact is equipped with three LEDs for optical display. The functions assigned are as follows:

**LED yellow:** "Power ON"-display.  
Turned on constantly when connected to the power supply.

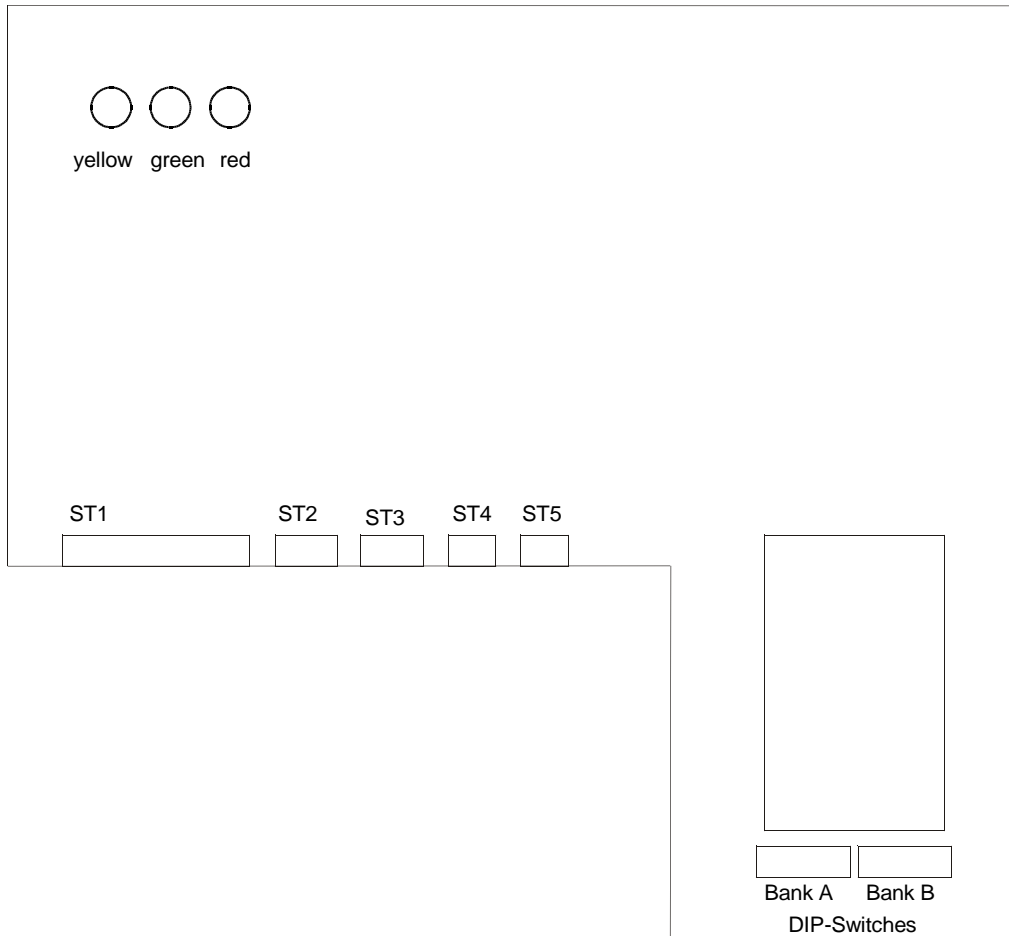
**LED green:** Tag received.  
Blinks in case a transponder telegram has been received.

**LED red:** Tag in field.  
Is active as long as a transponder is located in the field.

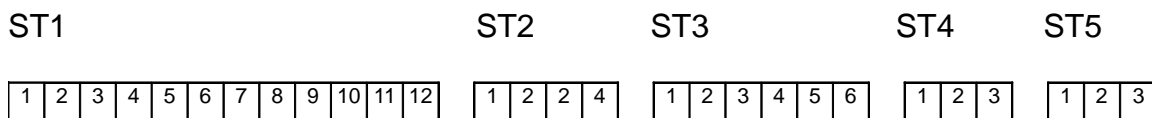


## 4.2 Pin assignment

A schematic description of the position of the pins and dip-switches is given in the diagram below:



In the lower part of the card there are five connector rails for connecting to the power supply and to other devices in the peripheral equipment. The connector rails are assigned as follows.



**ST1 (PRX)**

- P1 beeper-input
- P2 ground
- P3 positive current voltage 24V (18V – 30V)
- P4 Wiegand-output D1 ( loading arrangement RS 232 )
- P5 Wiegand-output D0
- P6 Wiegand-output CP
- P7 LED green input
- P8 LED red input
- P9 RS485 - A
- P10 RS485 - B
- P11 Tamper-contact
- P12 Tamper-contact

**ST2 (SATELLITE)**

- P1 positive current voltage, 24V (18V ... 30V)
- P2 ground
- P3 RS485 - A
- P4 RS485 – B

**ST3 (SYNC)**

- P1 positive current voltage, 24V (18V ... 30V)
- P2 ground
- P3 SYNC - A
- P4 SYNC – B
- P5 SYNC-AIN
- P6 SYNC-BIN

**ST4 (RELAYS 1)**

- P1 connected to P2, in case yellow LED is turned off (Breakdown of current voltage or alarm-condition)
- P2 reference connection of the relays
- P3 connected to P2, in case the yellow LED is turned on

**ST5 (RELAYS 2)**

- P1 connected to P2, in case the red LED is turned off
- P2 reference connection of the relays
- P3 connected to P2, in case the red LED is turned on (alarm-condition)



### 4.3 DIP-switches

The amanTag compact can be configured with two eight pole dip-switches (rail A and B).

ON



ON



- A1 activate the monitor tag function.
- A2 always has to be „on“.
- A3 reserved for testing-modes, has to be turned off!
- A4 in case this switch is set, the RS485-address is defined by the door-number
- A5-A8 Binary switch-group for definition of the door number  
The numbers 0000 and 1000 must not be used!
  
- B1-B4 binary switch-group to determine the wake-up-range
- B5 reserved for testing-modes, has to be turned off!
- B6 special function for ending the transport mode of the transponders. Should be turned off during normal working mode.
- B7 reserved for testing-modes, has to be turned off!
- B8 has to be set, to activate the RS485-receiver.

Examples for adjusting the door-number:

**Door-number 1:**

ON

#	#	#	#	#	#	#	#
A1	A2	A3	A4	A5	A6	A7	A8

**Door-number 2:**

ON

#	#	#	#	#	#	#	#
A1	A2	A3	A4	A5	A6	A7	A8

**Door-number 3:**

ON

#	#	#	#	#	#	#	#
A1	A2	A3	A4	A5	A6	A7	A8

**Door-number 8: (reserved, should not be used)**

ON

#	#	#	#	#	#	#	#
A1	A2	A3	A4	A5	A6	A7	A8

**Examples for adjusting the wake-up-range:**

**Range 1:**

ON

			#				
#	#	#		#	#	#	#
B1	B2	B3	B4	B5	B6	B7	B8

**Range 2:**

ON

		#					
#	#		#	#	#	#	#
B1	B2	B3	B4	B5	B6	B7	B8

**Range 3:**

ON

		#	#				
#	#			#	#	#	#
B1	B2	B3	B4	B5	B6	B7	B8

**Range 8:**

ON

#							
	#	#	#	#	#	#	#
B1	B2	B3	B4	B5	B6	B7	B8

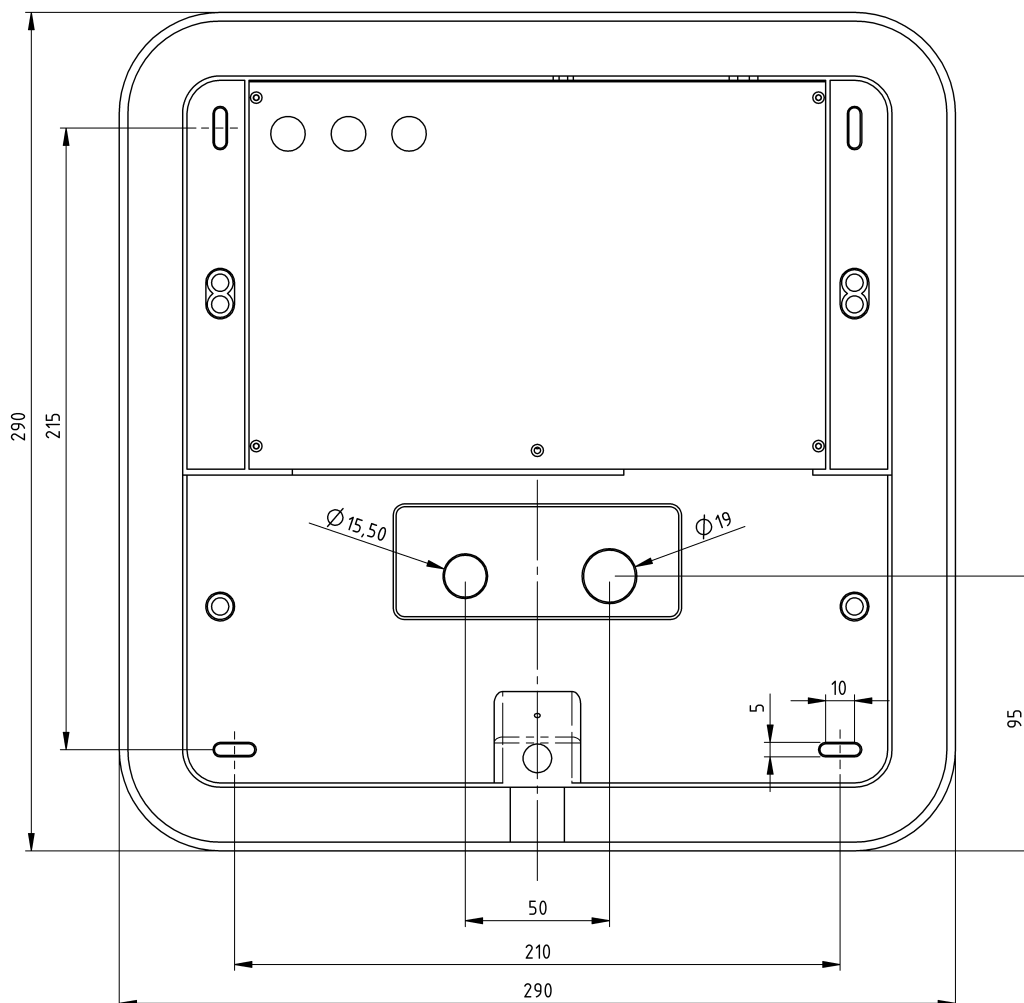
## 5. Installation

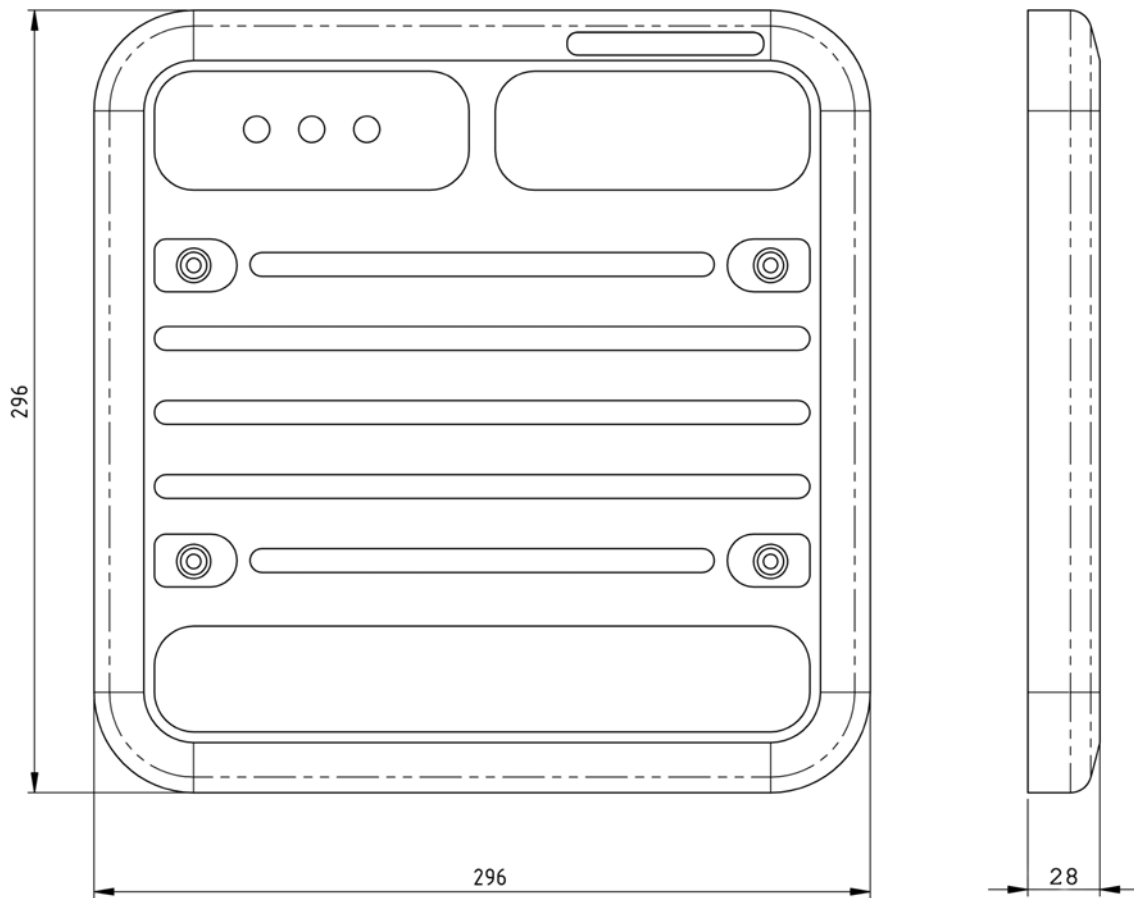
### 5.1 General Information

- During the installation it is important to take care that the readers are not too close together. The low frequent fields of the readers must not overlap.
- The wake-up-fields of the different readers must not overlap. The range of the field can be varied by the dip-switches B1-B4.
- Mounting on a metallic surface or on brick-walls with lots of steel reinforcement can reduce (or unexpectedly extend) the wake-up-range of the reader.

### 5.2 Mounting

The amanTag compact reader will be mounted to the wall with 4 screws. The back panel of the device is provided with the according drill holes for the screws and the wire outlets. The dimensions can be seen in the following diagrams.





## 6. Regulatory notices

Hereby, deister electronic GmbH declares that this equipment - if used according to the instructions - is in compliance with the essential requirements and other relevant provisions of the RTTE Directive 1999/5/ EC.

**A full declaration of conformity can be requested at:**

**info@deister-gmbh.de**



**Approved for use in all European countries.**

### **FCC Digital Device Limitations Radio and Television Interference**

This equipment has been tested and found to comply with the limits for a Class A 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.

**CAUTION:** Changes or modifications not expressly approved by the manufacturer could void the user's authority to operate this equipment.

### **Industry Canada**

This Class A digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe A est conforme à la norme NMB-003 du Canada.

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'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.



**Germany:**

deister electronic GmbH  
Hermann-Bahlsen Str. 11  
30890 Barsinghausen  
Tel.: +49 (0) 51 05 - 51 61 11  
Fax: +49 (0) 51 05 - 51 62 17  
info@deister-gmbh.de

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**www.deister.com**

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**France:**

deister electronic france  
101 rue Pierre Semard  
92320 Chatillon  
Tel.: +33 (0) 1 47 - 35 78 78  
Fax: +33 (0) 1 47 - 35 92 59  
info.fr@deister.com

**Great Britain:**

deister electronic (UK) Ltd.  
Stapleton Way, Enterprise Park  
Spalding, Lincolnshire  
PE11 3YQ  
Tel.: +44 (0) 1775 - 717100  
Fax: +44 (0) 1775 - 717101  
info.uk@deister.com

**Japan:**

deister electronic Japan, LTD.  
Toshiba Hoshikawa Bldg. 4F  
2-4 Kawabe-chô  
Hodogaya-ku, Yokohama-shi  
Kanagawa, 240-0001  
Tel.: +81 (0) 45 340 1831  
Fax: +81 (0) 45 340 1801  
info.jp@deister.com

**Americas and Caribbean:**

Deister Electronics USA, Inc.  
9303 Grant Avenue  
Manassas, VA 20110  
Tel.: +1 703 - 368 2739  
Fax: +1 703 - 368 9791  
info.us@deister.com