

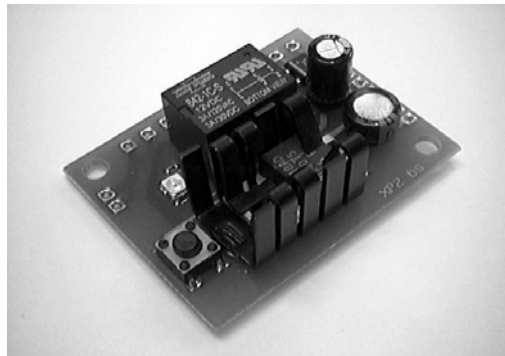
# USER GUIDE

Version 01/02



## Powermodul

for RF Reader 1plus, 2plus and 4plus



### **Important! Read by all means!**

**To maintain the perfect shipping conditions and to ensure safe operation please observe the instructions in this Operation Manual. Damages caused by non-observance of these instructions will invalidate any guarantee. We further cannot take liability for any consequential damages.**

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## 1. Introduction

Dear Customer,

We want to thank you for purchasing this Power module

With this unit you have acquired a product built to the latest state of engineering. Its operation is simple and easily understood. Nevertheless please read this Operation Manual carefully for optimum utilization of all of its features.

## 2. Intended Use

The intended use of this Power module 2002 POW is to supply power to the RF reader modules 1plus, 2plus and 4plus according to the technical notes in this user guide.  
Any use other than the one pointed out above is not admissible.

Design and construction of this Module correspond to all European and national requirements for Electro Magnetic Compatibility (EMC). The unit carries the CE-Sign, the conformity has been proven. All appropriate commentaries and records are in the possession of the manufacturer.

## 3. Safety Instructions

### **Important Informations on the Reader Module:**

- In conjunction with the Reader Module the Antenna builds a tank circuit creating high voltage at the antenna terminals. Please avoid any contact to these antenna terminals during operation of the Reader and especially keep children at a safe distance from the device.
- The RF Reader Family has not been designed to safely lock or secure doors. During prolonged absence from any room made accessible by a Reader the door must therefore further be locked by means of the original key.
- In order to guarantee sabotage safe operation do in any case mount the Reader's electronic circuit - unreachable for non-authorized persons - inside of the building.
- We cannot take liability for damages caused by improper and/or careless handling of RF Reader products.

|   |
|---|
| For use with the RF Readers specific Transponders suitable for these Readers are necessary. |
|---|

### **Notes on Installation of the Reader Modules:**

- The Modules are considered Reading and Controlling Devices of Mode of Operation Typ 1 according to EN 60730 (VDE 0631).
- When installing the Reader and Antenna Modules ensure a clean and dry environment.
- The individual Modules must be dry and free of dust.
- For protection of the power supply line use a slow-acting 2.5 A fuse.
- In case a bell transformer is used to provide the necessary power to the Reader Modules of the RF Reader it has to correspond with the requirements according to EN 61558-2-8 (DIN VDE 0570 Part 2-8: Special requirements for bell and ringer transformers).

### **Notes on Placing and Mounting the Reader Modules:**

When mounting Reader and Antenna the following guidelines have to be observed:

- Metallic objects must not be placed between Antenna and Transponder.
- The Antenna should be mounted on non-metallic material (wood, concrete) at a minimum distance of 3 cm from any metallic object.
- The connecting line of the Antenna must not be of any length in excess of 1.5 m. Otherwise the reading distance stated for the Reader Modules in Section 12. **Technical Specifications** cannot be guaranteed.
- The connecting line of the Antenna must not be mounted in the immediate proximity of any other line carrying electric current.
- Two or more connecting lines of any Antennas must not be mounted side by side.
- **When mounting several RF Readers inferences of Modules among each other can be avoided if a minimum distance of approximately 1 m is kept between Reading devices.**

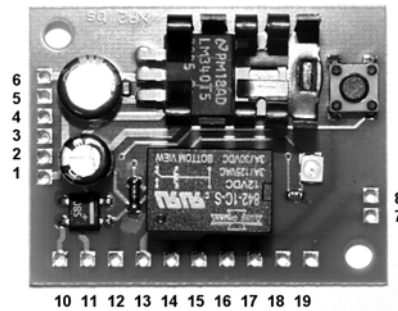
## 4. Device Description

The Power module 2002 POW is designed as plug-in module for the RF reader modules 1plus, 2plus and 4plus.

The terminal layout for the pins 1 to 8 is congruent to the layout of the reader modules and can be connected with pin connectors (2,54mm grid).

The pins 10 to 19 are designed for 3,5 mm screw connectors.

Also available on the power module are a push button (connected to pin 2 of the reader modules) and a relay (connected to pin 3 of the reader modules open collector output). A LED is switched in parallel to the relay.



PCB Power module 2002 POW

### Terminal positions:

|  |        |   |
|--|--------|---|
| Connectors to the reader modules                               | 1 ...  | +5V   |
|  | 2 ...  | input push button   |
|  | 3 ...  | output open collector (max. 200 mA)                             |
|  | 4 ...  | output data, TX-TTL   |
|  | 5 ...  | input data, RX-TTL  |
|  | 6 ...  | GND   |
|  | 7 ...  | Antenna 1   |
|  | 8 ...  | Antenna 2   |
| External connectors power module (for screw connectors 3,5 mm) | 10 ... | 12V= $\sim$ (e.g. transformer or external plug-in power supply) |
|  | 11 ... | 12V= $\sim$ (e.g. transformer or external plug-in power supply) |
|  | 12 ... | relay switch normally open                                      |
|  | 13 ... | relay center  |
|  | 14 ... | relay switch normally closed                                    |
|  | 15 ... | output data TX (RS 232 or TTL – depending on RF reader module)  |
|  | 16 ... | input data RX (RS 232 or TTL – depending on RF reader module)   |
|  | 17 ... | GND   |
|  | 18 ... | antenna 2   |
|  | 19 ... | antenna 1   |

## 5. Functional Description

The power module provides a stabilized 5 V supply voltage for the RF reader modules. It comprises a rectifier and a voltage regulator.

One can apply both a 9V AC or a 12 V DC source to the pins 10 and 11 of the power module. The power module is protected against wrong polarity.

## 6. Connections and Putting into Operation

The exact terminal positions can be seen in the table in Section 4. **Device Description** above.

The contacts 1 to 8 are designed in a 2,54mm grid.

Pin connectors can be used for soldering the power module and the RF reader module to a sandwich assembly.

Take care of sufficient distance between the two pcbs.

Before putting into operation of the pcb assembly please refer to the user guide of the corresponding RF reader module.

## 7. Operation

The power module will be put into operation by providing the supply voltage to it. It provides the 5 V supply voltage to the RF reader modules and has all necessary pins for operating the RF reader modules available on its pins 10 to 19.

## 8. Care, Maintenance and Disposal

Besides providing the specified voltage and its intended use as a power module for the RF reader modules 1plus, 2plus and 4plus the power module does not require any special care or maintenance.

A power module that highly unexpected has become unusable must be disposed of observing all relevant legal regulations.

## 9. Debugging

If all notes and regulations of this and other relevant Operation Manuals are observed correctly there should be no unexpected malfunctions. If this nevertheless happens to be the case, please do not attempt to make any own repairs. Return the device to your point of purchase and have it checked and possibly repaired by a qualified engineer. Opening or improper handling of the devices will invalidate any guarantee.

## 10. Technical Specifications

|                       |   |                         |
|-----------------------|---|-------------------------|
| Operating voltage     | : | 12V DC<br>9V AC         |
| Output voltage        | : | 5V DC, stabilized       |
| Supply current        | : | max. 200 mA             |
| Relay switching power | : | 3A / 30VDC, 3A / 125VAC |
| Measurements (LxBxT)  | : | 45 x 35 x 15 mm         |
| Operating temperature | : | 0°C bis 45°C            |

## 11. Notes on Manufacturer

CODATEX HainzImaier GmbH & Co. KG  
Ischlerbahnstraße 15  
A – 5020 Salzburg

Email: [info@codatex.com](mailto:info@codatex.com)

Internet: <http://www.codatex.com>