

The background of the cover is a photograph of a modern building's interior, featuring a large, curved, white, ribbed structure that resembles a giant's foot or a series of overlapping steps. The lighting is warm and golden, creating a sense of depth and architectural grandeur. A white grid pattern is overlaid on the entire image. In the top left corner, there is a red rectangular box containing the text 'inepro®'. In the lower center, there is a large red diamond shape containing the text 'Spider Reader'.

**inepro®**

**Spider Reader**

## **Technical Manual | Spider Reader**

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# Spider Reader

The most versatile card reader solution



*Congratulations on your selection of the Inepro Spider Reader. We are certain you will be pleased with your purchase of one of the flexible solutions of the market.*

*We want to help you get the best result from your Spider Reader. This manual contains information on how to do that; please read it carefully. Due to continuous product improvements this manual is subject to changes without notice.*

*We strongly recommend you read the license agreement to fully understand its coverage and your responsibilities of ownership.*

*Your Inepro dealer is dedicated to your satisfaction and will be pleased to answer your questions and your concerns.*

*Best wishes,  
Inepro BV.*

# Spider Reader

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## **Publisher**

*Inepro B.V.*

## **Managing Editor**

*K. de Graaf*

## **Technical Editors**

*K. de Graaf*

## **Cover Design**

*H. Wagenaar*

*K. de Graaf*

## **Team Coordinator**

*R. Groen*

## **Production**

*Inepro B.V.*

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# Directives

## **ATTENTION!!**

Read this manual carefully before installing the Spider Reader!

### **Guarentee**

No guarantee can be given if safety regulations are not followed.

### **Changes and/or modifications**

Changes and/or modifications which have not been approved by the responsible party can void the user's authority to operate the equipment.

### **Security**

Always disconnect the power supply before handling anything inside the device.



#### **For Indoor Use Only**

This device may only be used indoors.



#### **FCC Federal Communications Commission - US**

This device complies with part 15 of the FCC rules, operation is subject to two conditions:

- (1) This device may not cause harmful interference.
- (2) This device must accept any interference received, including interference that may cause undesired operation.



#### **CE Conformité Européenne (Conform European Norm)**

This device is in conformity with the EMC directive and low-voltage directive.



#### **Conformité d'Industrie Canada**

Appareil concernés:  
MCR708, MCR708G, DCR708, DCR708G, SCR708

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.

#### **Confirm Canada Industries**

Relevant Devices:  
MCR708, MCR708G, DCR708, DCR708G, SCR708

This device complies with Industry Canada's licence-exempt RSSs. 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.



#### **RCM Regulatory Compliance Mark**

This device is in conformity with Australian law.



#### **End of life directives**

Inepro is paying a lot of attention to environmentally-friendly production. Your new device contains materials which can be recycled and reused. At the end of its life specialised companies can dismantle the discarded device to recycle the reusable materials and to minimise the amount of materials to be disposed of. Please observe the local regulations regarding the disposal of packaging materials, exhausted batteries and old equipment.



# Introduction

**Part**

# Introduction



## Introduction

In this manual you find the instructions to install and configure your Spider. This manual is meant for all the Inepro Spider Readers.

This manual, the Spider Reader hardware and software are subject to change, make sure you have the latest version of this manual, because the older versions may have become obsolete.



## Function

The purpose of the Spider Reader is to read the unique ID contained in the card that is presented to the reader and transfer this ID to a server. In most cases this data will be the card serial number. To facilitate this a variety of card reader software modules have been developed. Our configuration tool will enable you to change the settings on the Spider Reader board.

Our reader can read Bluetooth Low Energy, 125KHz and 13,56 MHz Tags.



## FCC Certified



Caution! Changes or modifications not expressly approved by INEPRO B.V. could void the user's authority to operate the equipment.

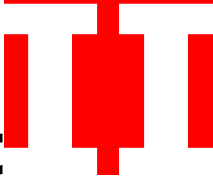


### Note:

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 ■

# Requirements

Part



# Requirements

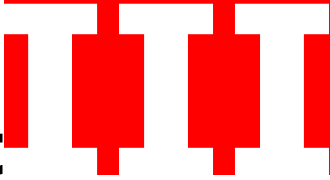


## Requirements

The Spider Reader has no known requirements other than a USB host that can read a keyboard-like Human Interface Device. ■

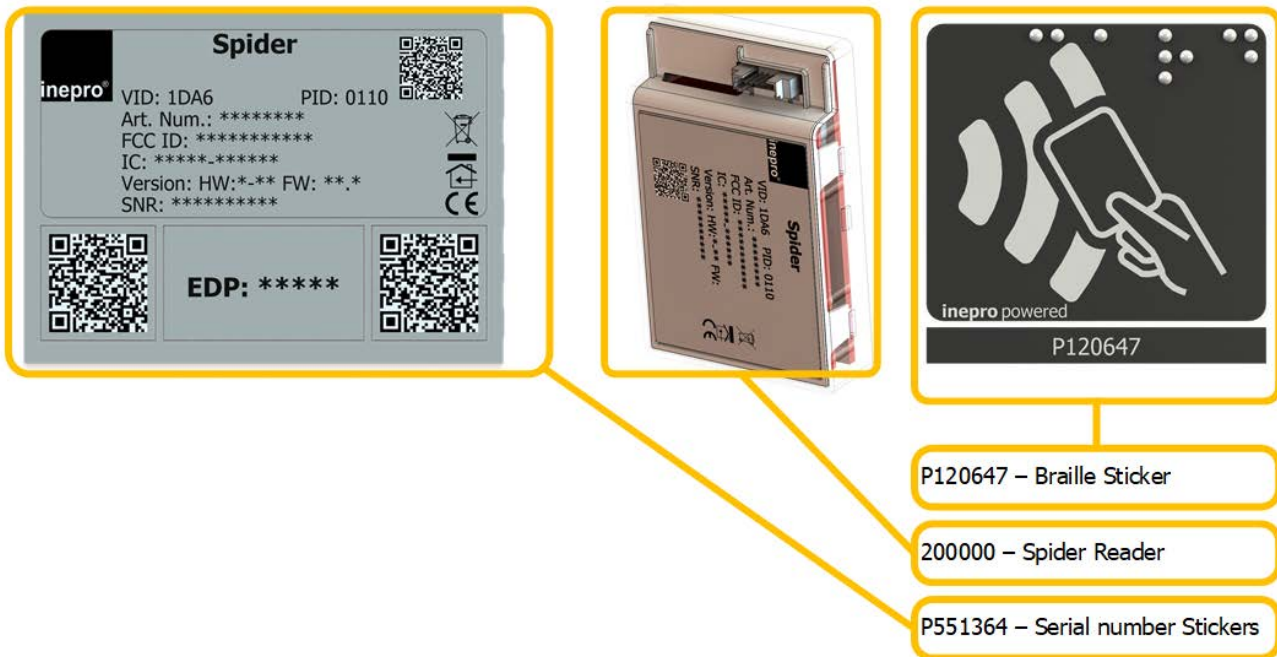
# Components

Part



# Components

## Components



- P551087 - Spider Cardboard box
- 200000 - Spider Reader
  - Spider Core Housing Top
  - Spider Antenna Board I
  - Spider Antenna Board II
  - Spider Core Housing Bottom
- P120647 - External Spider Braille RFID Foil
- P551364 - Spider Serial Stickers | Desktop sticker | EDP Sticker | 2x QR Serial sticker



## Check Components

 Please check if all the components are in the set before you continue with the installation and set-up. Some parts may already have been pre-assembled ■

**Test**

**Part IV**

# Test



## Software

For the Spider there is a tools available each with its specific features. Connect the Spider to a computer or laptop and present a card to the reader. Please note that the reader needs to have the HID RAW Configuration. (See Inepro SCR-MCR-DCR RFID Programmer Tool Full Version manual for more details).



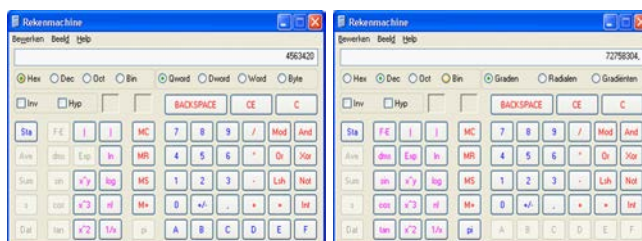
### Inepro SCR-MCR-DCR Programmer

With this tool it is possible to change the behaviour of the card reader, by creating or editing it's configuration file. For example it is possible to change the read out of the RFID card but also the LEDs can be switched off or the volume of the beeper can be changed. Once finished it is possible to store the created settings in a special config file which can be programmed via the SCR-MCR-DCR RFID Programmer Tool. For more information regarding this SCR-MCR-DCR RFID Programmer Tool please consult it's user manual.



### Quick-Test with the Windows Calculator:

1. Connect to Inepro Spider Reader to the USB PC or laptop.
2. Start the Calculator application on Windows, set de calculator under 'View' in on 'Scientific'.
3. Set the number system to hex decimal ('Hex').
4. Present a card to the Inepro Spider Reader.
5. Set the number system to decimal ('Dec') to read out the decimal value of this number. This is the (decimal) card number ■





## Hardware



### Physical test Inepro Spider Reader

1. Connect the Inepro Spider Reader to the USB port of a computer.
2. Check the indicator LED's to see if the board is operating as it should.



Blue Led burning:  
Reader is powered and has connection

Put a card on the Spider:  
Besides the blue power LED, the yellow  
and the green LED should lit.  
Yellow: card detected  
Green: card recognised.

This concludes the hardware test ■



## User Interface

Part **V**

# User Interface

## LED's

On the USB interface board are a number of LED's. Each of the LED's has a label, explaining their use. See the table below ■

| Image                                                                              | Function                   | Standby / Normal | Triggered / Not OK      |
|------------------------------------------------------------------------------------|----------------------------|------------------|-------------------------|
|    | Card is not recognized     | Off              | On                      |
|    | Card in detection field    | Off              | On                      |
|    | Card Recognized            | Off              | On                      |
|  | Reader is on and connected | On               | Flashes (no connection) |

# Technical Specifications

## Part VI

# Technical Specifications



## Specifications



### Power

|                      |                                                              |
|----------------------|--------------------------------------------------------------|
| Power Supply         | 5V                                                           |
| Power Consumption DC | 5V DC : At maximum (depending on the configuration)<br>0.5 A |



### Housing

|                      |                                |
|----------------------|--------------------------------|
| Material             | PCB   PCB/ABS                  |
| Colour               | Transparent                    |
| Dimensions W x D x H | 37.85 mm x 62.25 mm x 12.5 mm. |



### CPU

|     |                                        |
|-----|----------------------------------------|
| ARM | 32-bit Cortex®-M3 CPU Core   STM32F103 |
|-----|----------------------------------------|



### Memory (working storage)

|      |       |
|------|-------|
| SRAM | 20 Kb |
|------|-------|



### Storage

|              |       |
|--------------|-------|
| Flash Memory | 64 Kb |
|--------------|-------|



### Outputs

|                  |              |
|------------------|--------------|
| Pico Blade       | USB<br>RS232 |
| PID (Product ID) | 0110         |
| VID (Vendor ID)  | 1DA6         |



### User Interface

|       |                                     |
|-------|-------------------------------------|
| LED's | Red, Yellow /Orange, Green and Blue |
|-------|-------------------------------------|



### Audio

|              |                  |
|--------------|------------------|
| Piezo Buzzer | 4kHz, Max. 65 dB |
|--------------|------------------|



### Environmental conditions

|                                    |                           |
|------------------------------------|---------------------------|
| EMI / Safety                       | CE, FCC Class B           |
| Operating Temperature (Metric)     | 0-40 degrees Celsius      |
| Operating Temperature (Non-Metric) | 32-104 degrees Fahrenheit |
| Relative Humidity (Non Condensing) | 10% -90%                  |

# Troubleshooting

## Part VII

# Troubleshooting



## Troubleshooting

Sometimes things do not work out as expected, if so please read through this section before contacting your service organisation or dealer. Changes are you are able to solve the issue yourself.

The section is set up in a Symptom - Prognosis - Resolution format, that is first the symptom is given, then the possible causes and then the resolution for those causes.



**Symptom(s): Card not recognized**



**Prognosis: The Spider is not connected**



**Scope: All Devices**



**Resolution:**

A - Check if the blue light is flashing, if it is the reader is not connected to the server. Please check the availability of the server with another device like a laptop on that network connection.

B - If the blue light burns constantly

- 1) Try again
- 2) Make sure your card has been linked to your account.
- 3) Check if the problem occurs also with other cards, or on other devices.

C - If the problem has not been solved, please contact your supplier ■

FCC Statement

- 1. This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:
  - (1) This device may not cause harmful interference.
  - (2) This device must accept any interference received, including interference that may cause undesired operation.
- 2. Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

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 in a residential installation.

This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

IC STATEMENT

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.

This equipment complies with IC radiation exposure limits set forth for an uncontrolled environment. End user must follow the specific operating instructions for satisfying RF exposure compliance. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

CAUTION

- 1. Operation temperature:-20~40°C
  - 2.The device complies with RF specifications when the device used at 20cm from your body.
- Inepro BV hereby declares that this Spider is in compliance with the essential requirements and other relevant provisions of Directive 2014/53/EU  
This information has to be presented in such a way that the user can readily understand it. Typically, this will necessitate translation into every local language (required by national consumer laws) of the markets where the equipment is intended to be sold. Illustrations, pictograms and using international abbreviations for country names may help reduce the need for translation.

Max power  
BLE:3.16dBm  
Tx Frequency: BLE: 2402MHz~2480MHz  
NFC: 13.56MHz, 125KHz  
Rx Frequency BLE: 2402MHz~2480MHz, 125KHz  
NFC: 13.56MHz  
BLE and NFC can be used in Europe without restriction.

