



RFID114



For use in combination with charge controllers used in electric vehicle charging stations, wall boxes or street light charging points



Bender GmbH & Co. KG

P.O. Box 1161 • 35301 Grünberg • Germany
Londorfer Str. 65 • 35305 Grünberg • Germany
Tel.: +49 6401 807-0 • Fax: +49 6401 807-259
E-mail: info@bender.de • www.bender.de

© Bender GmbH & Co. KG

All rights reserved.

Reprinting only with permission of the publisher.

Subject to change!

Photos: Bender archives

Table of Contents

1. Important information	5
1.1 How to use this manual	5
1.2 Technical support: service and support	5
1.3 Delivery conditions	6
1.4 Inspection, transport and storage	6
1.5 Disposal	6
1.6 Intended use	6
2. RFID module	8
2.1 Dimensions for mounting	9
2.2 Operation	10
3. Technical data	11
3.1 Tabular data	11
3.2 Standards, approvals, certifications	13
3.3 Ordering information	13
3.4 Declaration of conformity	14

1. Important information

1.1 How to use this manual



*This manual is intended for **qualified personnel** working in electrical engineering and electronics!*

Always keep this manual within easy reach for future reference.



*This symbol denotes information intended to assist the user in **making optimum** use of the product.*

1.2 Technical support: service and support

Technical support by phone or e-mail for all Bender products

- Questions concerning specific customer applications
- Commissioning
- Troubleshooting

Telephone: +49 6401 807-760*

Fax: +49 6401 807-259

In Germany only: 0700BenderHelp (telephone and fax)

E-mail: support@bender-service.de

*Available from 7.00 a.m. to 8.00 p.m. 365 days a year (CET/UTC +1)

1.3 Delivery conditions

Bender sale and delivery conditions apply. These can be obtained from Bender in printed or electronic format.

1.4 Inspection, transport and storage

Inspect the dispatch and equipment packaging for damage, and compare the contents of the package with the delivery documents. In the event of damage in transit, please contact Bender immediately. The devices must only be stored in areas where they are protected from dust, damp, and spray and dripping water, and in which the specified storage temperatures can be ensured.

1.5 Disposal

Abide by the national regulations and laws governing the disposal of this device. Ask your supplier if you are not sure how to dispose of the old equipment.

For more information on the disposal of Bender devices, refer to our homepage at www.bender.de -> Service & support.

1.6 Intended use

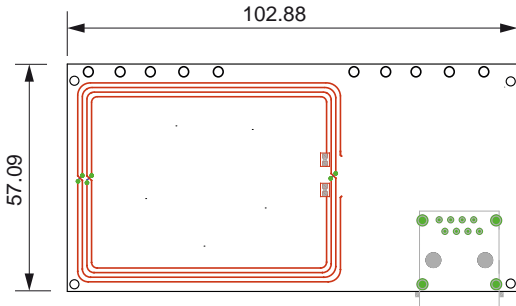
This manual provides a description of an RFID module which may only be used in combination with Bender charge controllers. The charge controller is designed for use in electric vehicle (EV) charging stations, wall boxes and street light charging points. This document should be used together with the charge controller operating manual(s), which can be downloaded from: www.bender.de/en/service-support/downloads

The RFID module is a separate PCB which facilitates user interaction with the charging system and is designed in accordance with the ISO14443A/MIFARE standard. It can be connected to the charge controller via the provided **RJ45 cable**.

Charging is initiated by holding a valid RFID card, which is registered in a back-end system, close to the antenna of the RFID module. In offline operation, the charge controller can optionally allow charging without authorization or it can authorize users based on RFID and a local white list of authorized RFID cards.

2. RFID module

The RFID module shown below contains an antenna.



Note: Tolerance acc. to ISO 2768 - m

All dimensions in mm

It is a PCB that should be placed under a metal-free charging system enclosure.



The RFID module must be mounted at a distance of at least 20 mm from any significant metal surface or metal parts to ensure an optimum reading performance of the RFID module.



CAUTION

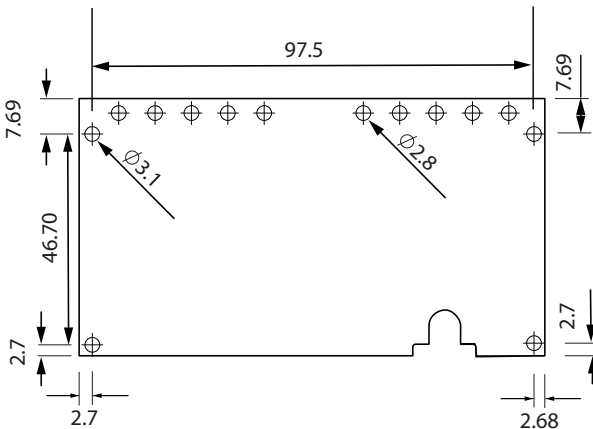
Electrostatic discharge (ESD) may cause damage to electronic components. Observe the precautions for handling electrostatically sensitive components in accordance with DIN EN 61340-5-1 and DIN EN 61340-5-2.

The **RFID frequency is 13.56 MHz**. Bender uses the PN532 Near Field Communication (NFC) controller for contactless communication, which supports virtually all RFID/NFC communication means on this frequency. Currently only passive tags with a UID are read. Further functionality is possible upon request.



The provided RJ45 cable has a length of 50 cm. However, the cable must not be longer than 3 m and must comply with the CAT5 standard or higher.

2.1 Dimensions for mounting



Note: Tolerance acc. to ISO 2768 - m

All dimensions in mm

2.2 Operation

The charging process is initiated by holding a valid RFID card close to the antenna of the RFID module.

The charging process can be finished by holding the RFID card close to the RFID module again.

3. Technical data

3.1 Tabular data

Insulation coordination acc. to IEC 60664-1/IEC 60664-3

Rated voltage	12.5 V
Overvoltage category	III
Pollution degree	3
Rated impulse withstand voltage	800 V
Rated insulation voltage	12.5 V
Altitude	≤ 2000 m AMSL

Nominal voltage/nominal current

Nominal voltage	DC 3.3 V
Nominal voltage tolerance	±5 %
Nominal current	80 mA

Frequency

Radio frequency	13.56 MHz
-----------------------	-----------

Environment

Operating temperature	-30...+70 °C
-----------------------------	--------------

Climatic conditions acc. to IEC 60721:

Stationary use (IEC 60721-3-3)	3K5 (except condensation, water and formation of ice)
Transport (IEC 60721-3-2)	2K2
Long-term storage (IEC 60721-3-1)	1K2

Mechanical conditions acc. to IEC 60721:

Stationary use (IEC 60721-3-3)	3M4
Transport (IEC 60721-3-2)	2M2
Long-term storage (IEC 60721-3-1).....	1M3

Connection

Connection to charge controller.....	via RJ45 cable
Maximum cable length	3 m

Other

Degree of protection	IP00
Maximum reading distance	100 mm
Weight	25 g

3.2 Standards, approvals, certifications

The RFID module has been developed in compliance with:

- ISO 14443A/MIFARE
- EN 50364: 2010
- EN 60950-1: 2006 + A11: 2009 + A1: 2010 + A12: 2011 + AC: 2011 + A2: 2013
- EN 61851-1: 2011
- EN 61851-22: 2002
- ETSI EN 301 489-1 V2.1.1: 2017
- ETSI EN 301 489-3 V2.1.1 Final Draft: 2017
- EN 300 330 V2.1.1: 2017

Subject to change! The specified standards take into account the edition valid until 04.2018 unless otherwise indicated.

3.3 Ordering information

Type	Art. No.
RFID114 (RJ45 cable (length 500 mm) included)	B94060114

3.4 Declaration of conformity

Bender GmbH & Co. KG
 Postfach 1161 • 35301 Grünberg/Germany
 Londorfer Straße 65 • 35305 Grünberg/Germany
 Phone: +49 6401 807-0 • Fax: +49 6401 807-259
 E-Mail: info@bender.de • www.bender.de



EG-Konformitätserklärung EC-Declaration of Conformity

Hersteller: Bender GmbH & Co. KG
Manufacturer: erklärt in alleiniger Verantwortung, dass das Produkt
declare under our sole responsibility that the product

Produktbezeichnung **RFID11x (siehe Anlage)**
Product name: *RFID11x (see annex)*
 auf das sich diese Erklärung bezieht, mit den Vorschriften
 folgender Europäischen Richtlinien übereinstimmt.
to which this declaration relates, is in conformity with the
following European directives.

Richtlinien: **2011/65/EU** **RoHS-Richtlinie** *RoHS directive*
Directives: **2014/53/EU** **RED-Richtlinie** *RED directive*


Zur Beurteilung der Konformität wurden folgende Normen herangezogen:
The assessment of this product has been based on the following standards:

Angewandte Normen / *Applied standards:*

EN 50364	:2010,	EN 50581	:2012
EN 60950-1	:2006 ... A2:2013,	EN 61851-1	:2011
EN 61851-22	:2002		
ETSI EN 300 330	V2.1.1 :2017		
ETSI EN 301 489-1	V2.1.1 :2017		
ETSI EN 301 489-3	V2.1.1 Final Draft: 2017		

Ort, Datum: Grünberg, den 06.03.2018
place, date:

Unterschrift:
signature:


 (Winfried Möll)
 (Geschäftsführer Technologie / CTO)

Anmerkung: Die Anlagen sind Bestandteil dieser EG-Konformitätserklärung.
 *Evtl. Normen Einschränkungen sind gerätespezifisch in der Typenliste gekennzeichnet.

Remark: *The annexes are part of this declaration.*
**Limitation of standards are marked with a sign in the attached type list.*

Bender GmbH & Co. KG

Postfach 1161 • 35301 Grünberg/Germany
Londorfer Straße 65 • 35305 Grünberg/Germany
Phone: +49 6401 807-0 • Fax: +49 6401 807-259
E-Mail: info@bender.de • www.bender.de



Anlage - Typenliste der EG-Konformitätserklärung RFID11x

Annex - Typelist of EC-declaration RFID11x

Produktgruppe <i>Product group</i>	Art.-Nr. <i>Art.-no.</i>	Gerätebezeichnung <i>Device type</i>
CC61x	B94060110	RFID110-L1
RFID	B94060114	RFID114 ohne LEDs



Bender GmbH & Co. KG

P.O. Box 1161 • 35301 Grünberg • Germany
Londorfer Str. 65 • 35305 Grünberg • Germany
Tel.: +49 6401 807-0 • Fax: +49 6401 807-259
E-Mail: info@bender.de • www.bender.de

Photos: Bender archives



BENDER Group