HIRAIN TECHNOLOGIES
NAVISTAR RKE
Lock Remote

HIRAIN NAVISTAR RKE Lock Remote Owner's Manual

Contents

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HIRAIN NAVISTAR RKE Lock Remote

Specifications

- **Product Name:** Navistar RKE
- **Model Number:** HRP****-HARD-DD-004 C
- **Manufacturer:** Hirain Technologies
- **Certification:** HR/QR16949-0807-11-02
- **Operating Voltage Range:** 2.1V-3.3V

Product Usage Instructions

- **System Description**
  The RKE (Remote Keyless Entry) system block consists of four modules: POWER, MCU, SWITCHES, and RF module. When a switch is pressed, the MCU sends signals to the RF module which then transmits RF signals via the antenna.
- **Operational Principle**
  When a switch is pressed, the MCU generates a wake-up signal and sends enable and data signals to the RF module. The RF module then transmits RF signals through the antenna.

Function Description

- **Remote Keyless Entry Function:** The RKE allows for remote locking and unlocking of the vehicle.
- **Panic Function:** Pressing the panic switch triggers the receiver to send a corresponding message if the key is suitable for the car.
- **Warning Function:** In low power conditions, the RKE includes low power information in the message and triggers relevant warning messages.

Technical Parameters

Electrical Characteristics:

Parameter	Value
Operating voltage range	2.1V-3.3V
Standby current	[Value not provided]

Document status: [ ] Draft [√] Released [ ] Modifying
Draft: 1. Mimi Hu

Design	**Mimi Hu**	**Signature**	**Mimi Hu**	**Date**	**2015.06.12**
Review	**Huiping wang**	**Signature**	**Huiping Wang**	**Date**	**2015.06.16**
Approve	**Fei.Xu**	**Signature**	**Fei.Xu**	**Date**	**2015.06.16**

Modify History

Ver.	Description	Date	Signature
V1.0	Initial	2015-06-12	Hu Mimi
V2.0	Updated the system block	2024-06-25	Yi Zhang

Scope

1. **Purpose**

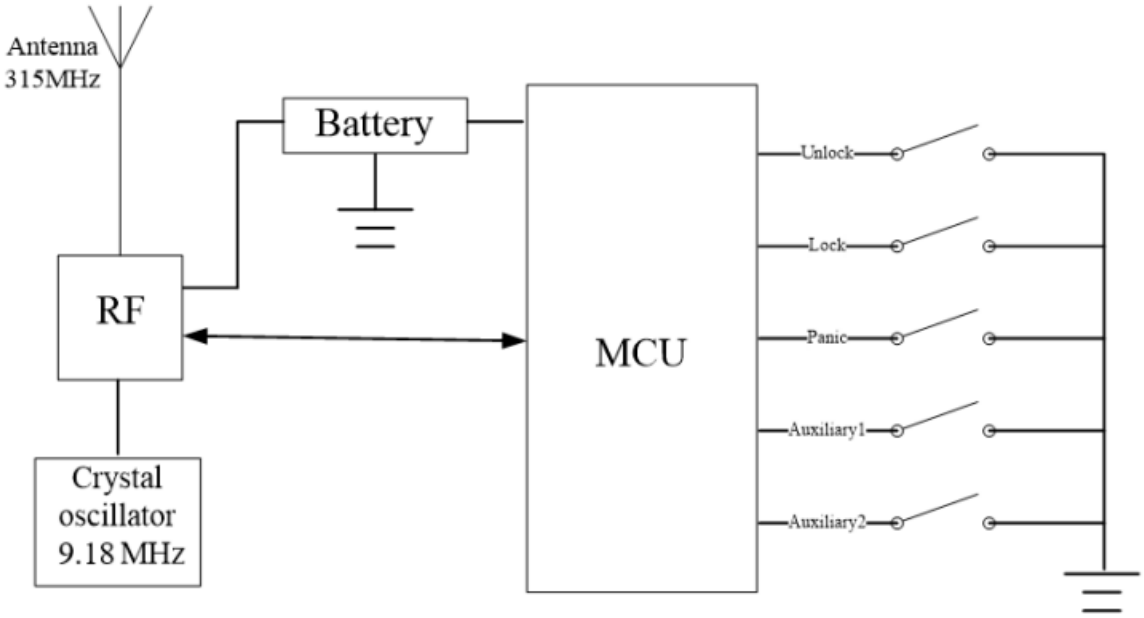
   This document is the datasheet of Navistar RKE.

2. **Definition**

   RKE: Remote Keyless Entry

System Description

RKE system block



Operational principle

- AS the system block shows, the RKE contains four modules. They are POWER, MCU, SWITCHES and RF module.
- When any switch is pressed, a wake up signal of MCU will be active. Then MCU module will send enable signal and data signal to the RF module. Once the RF module receives these signals, it will send RF signal by antenna.

Function Description

Remote keyless entry function

1. **Lock function**
   The receiver receives the RF signal when the lock switch is pressed. If the key is suit for the car, the receiver will send a corresponding message to lock the car.
2. **Unlock function**
   The receiver receives the RF signal when the unlock switch is pressed. If the key is suit for the car, the receiver will send a corresponding message to unlock the car.
3. **Auxiliary function1**
   The receiver receives the RF signal when the AUX1 switch is pressed. If the key is suit for the car, the receiver will send a corresponding message.
4. **Auxiliary function2**
   The receiver receives the RF signal when the AUX2 switch is pressed. If the key is suit for the car, the receiver will send a corresponding message.
5. **Panic function**
   The receiver receives the RF signal when the panic switch is pressed. If the key is suit for the car, the receiver

will send a corresponding message .

Warning function
On the low power condition, if the RKE is used, it will add the low power information in the message. And the receiver will send the relevant warning message.

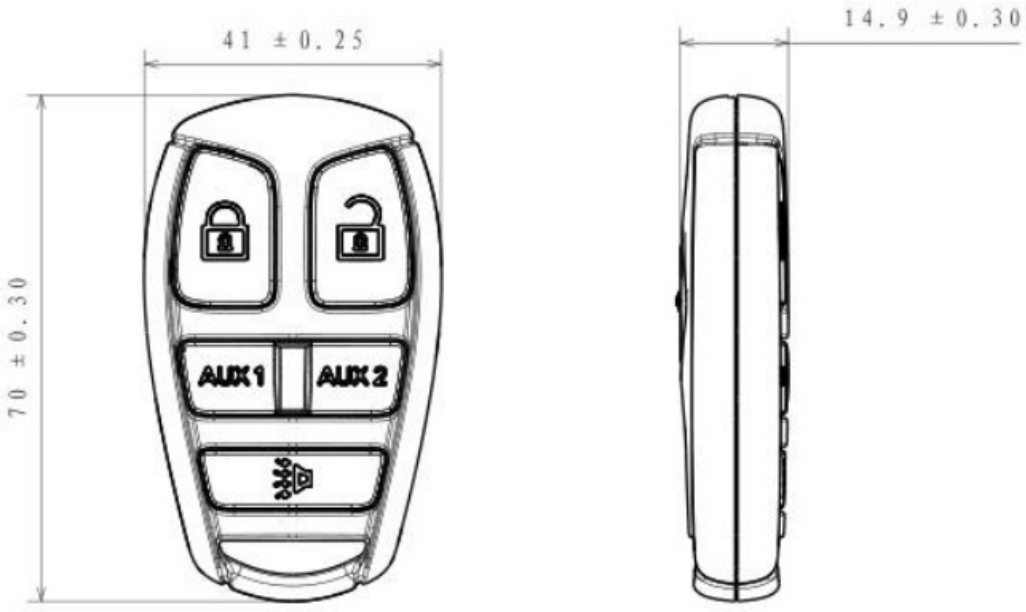
Technical parameters

Electrical Characteristics
Table 1 RKE Characteristics

Parameter	Value
Operating voltage range	2.1V-3.3V
Standby current	<=1uA
Operating current	<=10mA
Type of modulation	ASK
Operating frequency	315MHz±100KHZ
Typical operating voltage	3V
Operating temperature range	-40℃~+85℃ without battery

Dimensions

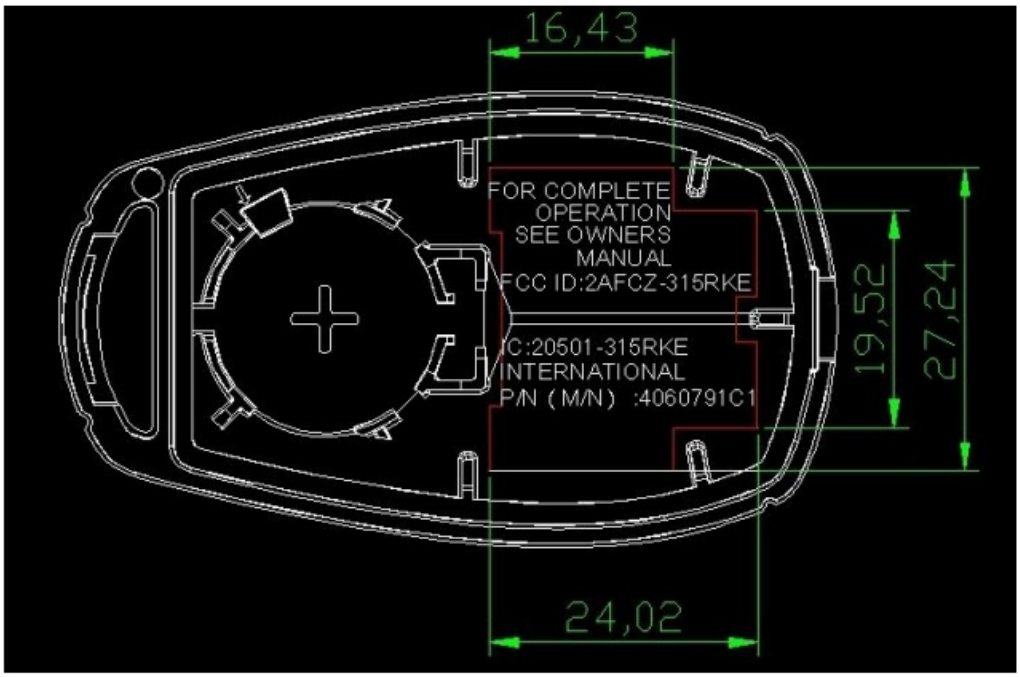
The mould and dimensions of Navistar RKE are shown in the following pictures.



FCC ID Position

FCC ID is on the inner surface of shell, which can be seen after opening the RKE by the way shown below.

Open the RKE from this position by tooling.



FCC ID is on the inner surface of shell

Federal Communications Commission (FCC) Interference Statement

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, and
2. this device must accept any interference received, including interference that may cause undesired operation.

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.

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

RF exposure warning

- The equipment complies with FCC RF exposure limits set forth for an uncontrolled environment.
- The equipment must not be co-located or operating in conjunction with any other antenna or transmitter.

IC Radiation Exposure Statement for 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.

FAQ

Q: What should I do if the remote keyless entry function is not working?
A: If the remote keyless entry function is not working, try replacing the batteries in the remote key fob. If the issue persists, consult the user manual for troubleshooting steps or contact customer support.

Q: How can I activate the panic function on the RKE?
A: To activate the panic function on the RKE, locate the panic button on the remote key fob and press it for a few seconds until the alarm is triggered.

Documents / Resources

	HIRAIN NAVISTAR RKE Lock Remote [pdf] Owner's Manual 315C2, 2AFCZ-315C2, 2AFCZ315C2, NAVISTAR RKE Lock Remote, NAVISTAR RKE, Lock Remote, Remote

References

- User Manual