



恒润科技
HIRAIN TECHNOLOGIES

编号: HRP****-HARD-DD-004

内部: 密 C

NAVISTAR RKE

User Manual

Hirain Technologies



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



Table of Contents

Modify History	3
1.Scope	5
1.1Purpose.....	5
1.2Definition	5
2.System Description	5
2.1 Operational principle.....	5
3.Function Description	5
3.1Remote keyless entry function	5
3.2Warning function.....	6
4.Technical parameters	6
4.1Electrical Characteristics.....	6
5.Dimensions	7
6. FCC ID Position	8



1.Scope

1.1Purpose

This document is the datasheet of Navistar RKE.

1.2Definition

RKE: Remote Keyless Entry

2.System Description

2.1 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.

3.Function Description

3.1Remote keyless entry function

3.1.1 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.

3.1.2 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.

3.1.3 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.

3.1.4 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.

3.1.5 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 .

3.2Warning 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.

4.Technical parameters

4.1Electrical Characteristics

Table 1 RKE Characteristics

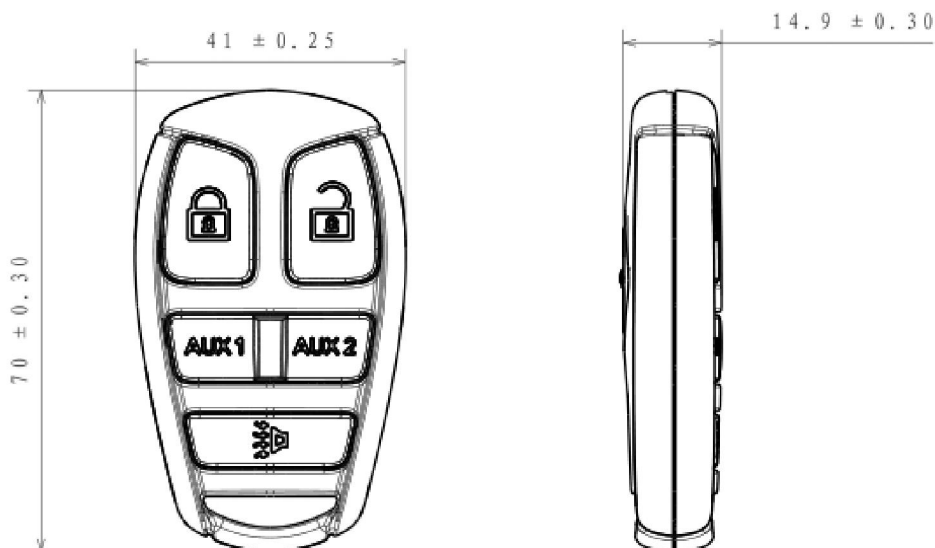
Parameter	Value
Operating voltage range	2.1V-3.3V
Standby current	$\leq 1\mu A$
Operating current	$\leq 10mA$
Type of modulation	ASK
Operating frequency	315MHz \pm 100KHZ



Typical operating voltage	3V
Operating temperature range	-40℃~+85℃ (without battery)

5.Dimensions

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



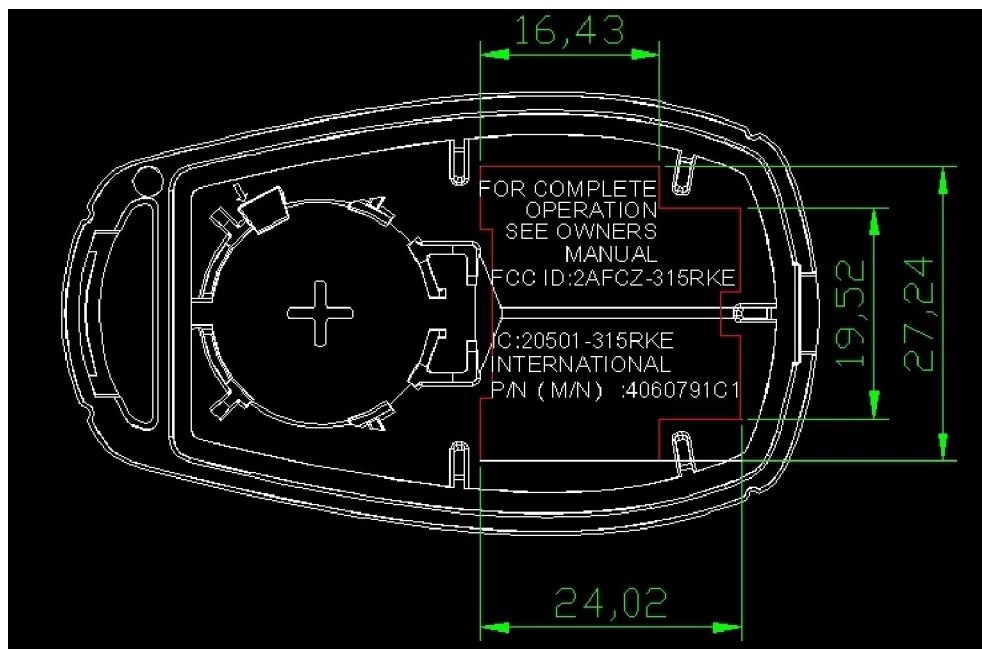


6. FCC ID Position

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

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.

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.