TN32MSEC003S

USER'S MANUAL

Zixsys Inc.

〔Index〕

1. Overview

TN32MSEC003S is a NFC Reader/Writer module which is capable of acquiring the ID or read/write the data on the ISO/IEC14443-A compliant card, Felica card or Felica chip installed mobile phone. The module is compliant to the RF regulations of Japan, EU, USA and Canada.

＊Enabled operations depend on the type of cards.

2. Product specification

2-1. Product name

Antenna built-in type NFCR/W

2-2. Application

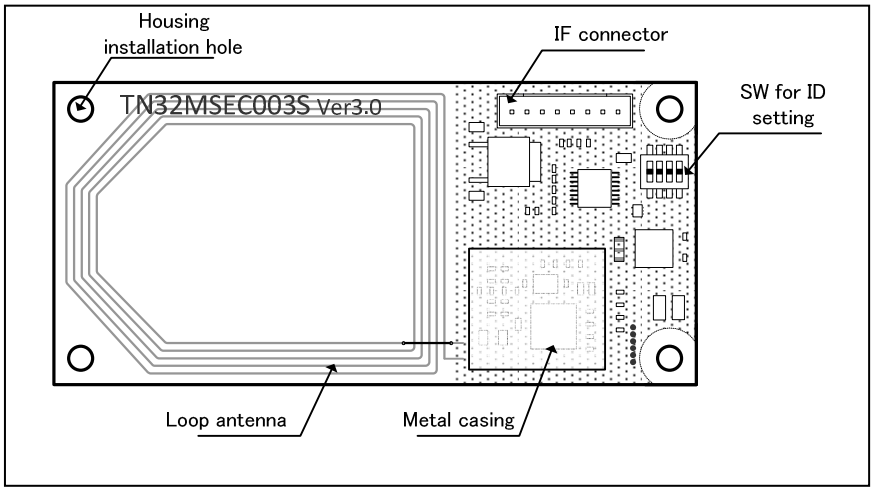
For Amusement equipments

2-3. Electrical characteristics

Item	Specification	Note
Product Number	TN32MSEC003S	
Dimension	40×85×7.7(H)　＊1	＊1　H indicate the thickness of highest position
Weight	Around 15g	
Power Supply	DC5V（Ripple shall be under 100mVpp）	
Power Consumption	At Standby　：　around 30mA Maximum　：　around 200mA　＊2	＊2　Depends on the type of cards
RF Frequency	13.56MHz±50ppm	
RF Category	Inductive coupled Read/Write Device (Type Certified)	
Communication Protocol	NFC Protocol(ISO/IEC18092)	
Modulation Scheme	ASK10/100% selectable	
Anti-collision	Up to 2 cards　＊3	＊3　Evaluation result will be reported separately
Applicable cards	Moble FeliCa, Edy card, SLE55R16 card, Mifare variants(Std1K,4K,Mini/Ultralight,Ultralight C)　＊4	＊4　Read/Write functions only applicable on Mifare variants.
External Interface	・I/F connector(Power、RS232C)　＊5 ・Up stream communication protocol is comparable with	＊5　Baud rate：38400bps

	JAMMA VIDEO Standard.	
Compliant Standards	・Japanese RF regulation (Type Designation) ・CE　NB Certification （R&TTE、Low power、Safety） ・FCC Part15 Subpart C・RSS-210 ・UL　Recognized Component Directory （Connector、PWB、Label） ・All components conform RoHS	
Operational Environment	Temeperature　：　−10℃～＋60℃ Humidity　：　10%～80%（RH）　*6	*6　Without condensation
Storage Environment	Temperature　：　−30℃～＋80℃ Humidity　：　10%～80%（RH）　*6	*6　Without condensation
Ｓｔｒｕｃｔｕｒｅ	・Parts mounted on single surface ・Switches for Reader ID setting − SW（DIPSW 4P） ・Metal casing（For FCC Part15C compliance） ・Four holes for housing installation（M3） ・Product Label（With Serial Number） ・On board loop antenna	
Major Features	・Firmware update ・Reader ID setting ・Card ID（IDm/USN）　acquisition ・Memory read/write on user area　*7 ・RF Power control（Mode switch） ・H/W Version acquisition ・Build in type module	*7　Mifare variants only

3. Module structure



① I/F connector

The connector for host terminal and Daisy chain connection.

Type of connector ： B8B-PH-SM4-TB(LF)(SN) JST

1	2	3	4	5	6	7	8
VCC （＋5V）	GND	TXD1	RXD1	GND	TXD2	RXD2	GND

② SW for ID Setting

This SW is provided for setting the Reader/Writer ID. Maximum of 8 IDs can be set.

Ch＼ID	0	1	2	3	4	5	6	7
1	OFF	ON	OFF	ON	OFF	ON	OFF	ON
2	OFF	OFF	ON	ON	OFF	OFF	ON	ON
3	OFF	OFF	OFF	OFF	ON	ON	ON	ON
4	–	–	-	–	-	–	-	–

③ Loop antenna

Antenna for the RF communication with IC card and Mobile FeliCa terminal. Since metal located nearby will affect the communication performance, please avoid affixing a metal label around the antenna.

④ Hole for hosing

Four holes for M3 size screw. It is recommended to use screws, nuts or post of resin materials.

⑤ Metal casing

Casing for protection of RF circuits (especially for FCC Part15C compliance).

4. Cautions

・This module utilize the sensitive RF communication. RF signals interference might occur with other RF emitting equipments located nearby thus it shall be installed with sufficient distance between these.

・Since this module emits RF signal, special care shall be taken to avoid the use around the medical equipments such as a pacemaker.

・Changes or modifications not expressly approved by the manufacturer for compliance could void the user's authority to operate the equipment.

・The following sentence has to be displayed on the outside of the device inwhich the transmitter module is installed:"Contains FCC ID: WBGTN32MSEC003S.

・The term "IC:" before the radio certification number only signifies that Industry Canada technical specifications were met.

This device complies with RSS 210 of Industry Canada "IC".

"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."

・L'utilisation de ce dispositif est autorisée seulement aux conditions suivantes : (1) il ne doit pas produire de brouillage et (2) l'utilisateur du dispositif doit étre prêt à accepter tout brouillage radioélectrique reçu, meme si ce brouillage est susceptible de compromettre le fonctionnement du dispositif.

・The following sentence has to be displayed on the outside of the device in which the transmitter module is installed: "Contains IC: 3413ATN32MSEC003S

Hereby, Zixsys Inc., declares that this product is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC.

CE0560

The Declaration of Conformity (DoC) can be downloaded at following. URL

http://www.zixsys.com/doc/tn32msec003s.pdf