

AS-1 READER/WRITER

User Manual

Rev.1.0

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Contents

1	Introduction	3
2	Appearance.....	3
3	Specification	3
4	Part names	4
4.1	AS-1 READER.....	4
4.2	AS-1 WRITER	4
5	Interface	5
5.1	AS-1 READER.....	5
5.2	AS-1 WRITER	6
6	Operation	7
6.1	AS-1 READER.....	7
6.2	AS-1 WRITER	7
7	REGULATORY COMPLIANCE INFORMATION.....	9
8	Revision History.....	9

1 Introduction

This address sensor unit (AS-1) is a RFID low-frequency (LF) 134.2kHz reader/writer unit for address tag for AGV (Automated Guided Vehicle) with internal loop antenna.

Address tags are used by the AGV to determine its position while driving.

AS-1 has two types of the functions by factory default, AS-1 READER is the RFID reader function, AS-1 WRITER is the RFID writer function.

2 Appearance

AS-1 READER front view



AS-1 READER back view



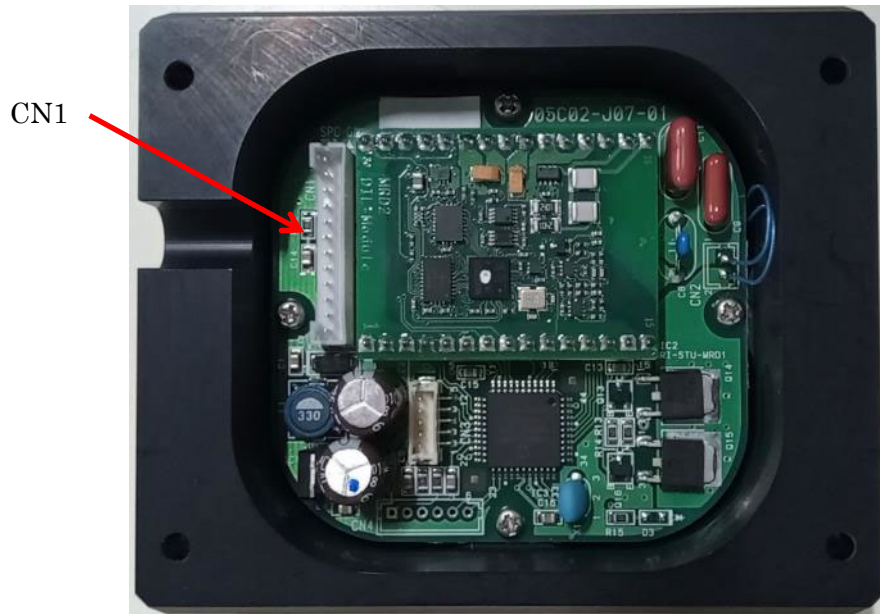
The appearance of AS-1 WRITER is almost the same as above.

3 Specification

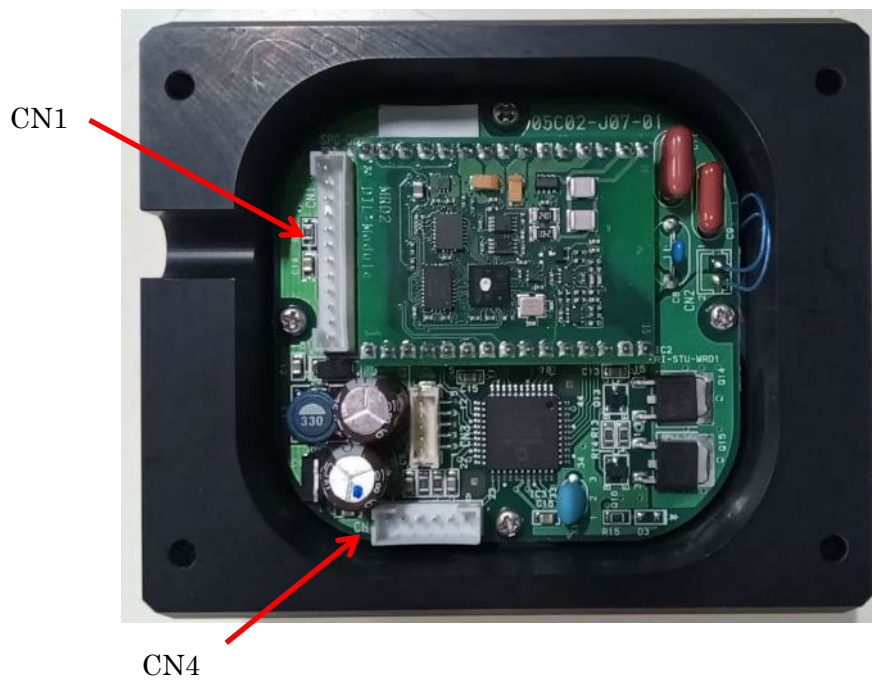
Compliant	: ISO 11784/11785 134.2kHz RFID
ID Tag type	: RI-TRP-WR3P-30 (23mm Glass), RI-TRP-WR2B-30 (32mm Glass)
Dimension	: 88mm (W), 73mm (D), 27mm (H)
Weight	: 100g
Voltage	: DC +12V
Current	: 0.5A

4 Part names

4.1 AS-1 READER



4.2 AS-1 WRITER



5 Interface

5.1 AS-1 READER

CN1 (JST B12B-PH-K-S)

Pin No.	Pin Name	Function	Description
1	GND	-	Ground
2	DC +12V	Power	
3	/Stop	I	RF output stop signal to sleep (L: Stop mode)
4	/Clock	O	Data enable signal (100msec) for Data
5	/D7	O	Data bit 7
6	/D6	O	Data bit 6
7	/D5	O	Data bit 5
8	/D4	O	Data bit 4
9	/D3	O	Data bit 3
10	/D2	O	Data bit 2
11	/D1	O	Data bit 1
12	/D0	O	Data bit 0

5.2 AS-1 WRITER

CN1 (JST B12B-PH-K-S)

Pin No.	Pin Name	Function	Description
1	GND	-	
2	DC +12V	Power	
3	NA	-	
4	/OKT	O	Execute done signal for EXE LED
5	DB7	O	Data bit 7 for LCD (1602) module
6	DB6	O	Data bit 6 for LCD (1602) module
7	DB5	O	Data bit 5 for LCD (1602) module
8	DB4	O	Data bit 4 for LCD (1602) module
9	BL	O	Back Light enable for LCD (1602) module
10	W/R	I	Write/Read switch signal (L: Write Mode)
11	RS	O	Register Select signal for LCD (1602) module
12	STB	O	Strobe signal for LCD (1602) module

CN4 (JST B6B-PH-K-S)

Pin No.	Pin Name	Function	Description
1	Battery	I	A/D converter input for battery voltage check
2	/CLEAR	I	LCD clear switch button
3	/UP	I	UP switch button
4	/X10	I	X10 switch button
5	/DOWN	I	DOWN switch button
6	/EXE	I	EXE switch button

6 Operation

6.1 AS-1 READER

Normal operation:

- Turn on the power.
- AS-1 READER can be read ID value (D7-D0) from RFID tag with /Clock = L.
- User system will be known an ID value by /Clock = L 100msec width.

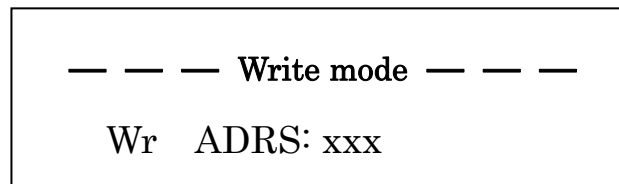
Stop mode:

- AS-1 READER can be entered stop mode (low power consumption) by /Stop = L.
- Recommendation: If the AGV is not moving, set Stop mode (/Stop = L).

6.2 AS-1 WRITER

Write operation:

- Turn on the power.
- Put AS-1 WRITER above the ID tag you want to write.
- Set R/W switch to WRITE side.
- Press the CLEAR, UP, X10, DOWN button and select the number you want to write ID address number.



CLEAR : ID write address to "000".

UP : ID write address to 1 increase.

DOWN : ID write address to 1 decrease.

X10 : Hold down this button and press UP button then ID write address to 10 increase. (DOWN is 10 decrease)

- Confirm WrADRS: xxx "OK" display by EXE button.

If writing was succeeded, EXE LED will light 100msec.

If writing was failed, LCD display will present Wr ADRS:xxx "NG" .

Read operation:

- Turn on the power.
- Put AS-1 WRITER above the ID tag you want to read.
- Set R/W switch to READ side.
- Press the EXE button.
- If reading was succeeded, ID address number will present on LCD display.

— — — **Read mode** — — —

Rd ADRS: xxx

If reading was succeeded, EXE LED will light 100msec.

If reading was failed, LCD display will present Rd ADRS: xxx .

During read operation, CLEAR, UP, X10, DOWN button disabled.

Other:

- If Battery voltage check function finds low battery voltage situation will display Low Battery!.
- LCD backlight will turn off automatically if no any buttons pressing during in a few seconds.

7 REGULATORY COMPLIANCE INFORMATION

Product Name: Address sensor unit

Model Name: AS-1 READER, AS-1 WRITER

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.

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FCC CAUTION

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 A 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.

8 Revision History

Rev.	Description
1.00	1 st release