RODSUMWIRELESS

RFID Reader Box

AC-RFR-020

User Manual

Document Control

Submitted by	**Rodsum Wireless Limited**
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Contact Information	

Revision History

Date	Version	Prepared By	Remarks
17 Jun 2011	1.0	Henry Pang	
18 Jun 2011	1.1	Henry Pang	Updated wiring diagram
1 Aug 2011	1.2	Henry Pang	Updated system illustration diagram Updated specification of main unit and MDT Added Appendix A
23 Aug 2011	1.3	Henry Pang	Updated wiring diagram

Disclaimer

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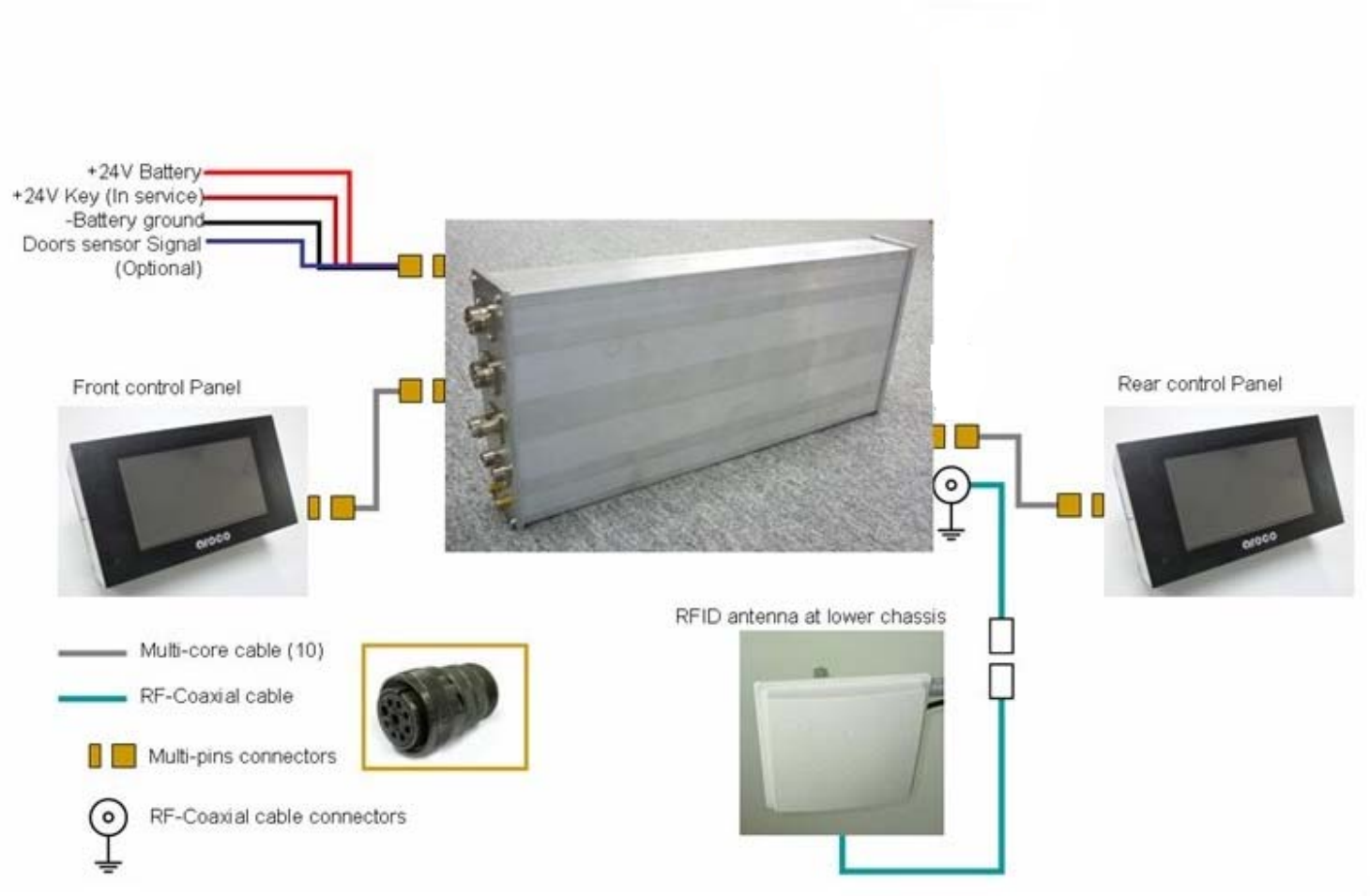
1 System Overview

1.1 List of equipments

Equipments provided by Rodsum

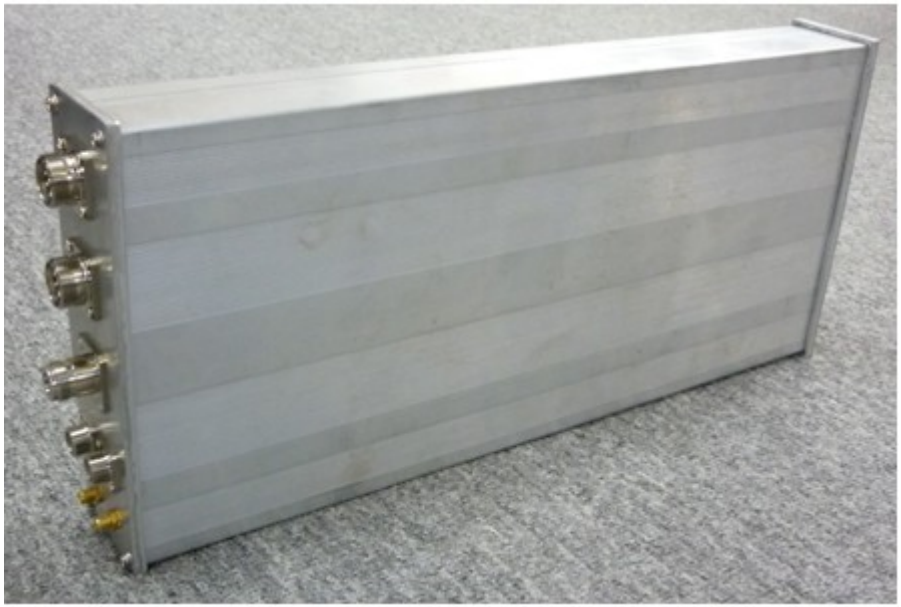
1. Main Unit
2. Motorman Data Terminal
3. RFID antenna

1.2 System Illustration Diagram



2 Equipments Overview

2.1 Main Unit



Specifications

Dimension (L x W x H)	Approx. 400 x 178 x 50 mm
Weight	Approx. 2.55kg
Case Material	Metal Alloy
IP Rating	IP65
Operating Power	9 - 36 VDC

Operating Temperature	－20℃~＋80℃
Power Consumption	Average 1A
Input/Output Ports	7

RFID Specifications

Working Frequency	902 - 928 MHz
Protocol	ISO18000-6C（EPC G2）/ ISO-18000-6B
Power O/P	1W
Modulation mode	DSB-ASK
RF Power Output	0~30dBm
Channel Qty	50

Proposed Installation Position

- Rear designation blind cabinet

2.2 Motorman Data Terminal

Specifications

Dimension (L x W x H)	Approx. 146 x 83 x 53 mm
Weight	Approx. 0.55kg
Screen Size	4.3 TFT LCD
Screen Resolution	480 x 272
Case Material	Aluminum Housing
IP Rating	IP55

Operating Power	9 - 36 VDC
Operating Temperature	－20℃~＋80℃
Power Consumption	Average 200mA
Input Ports	1

Proposed Installation Position

- Mount onto the flat/empty space on front and rear dash board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2.3 RFID Antenna

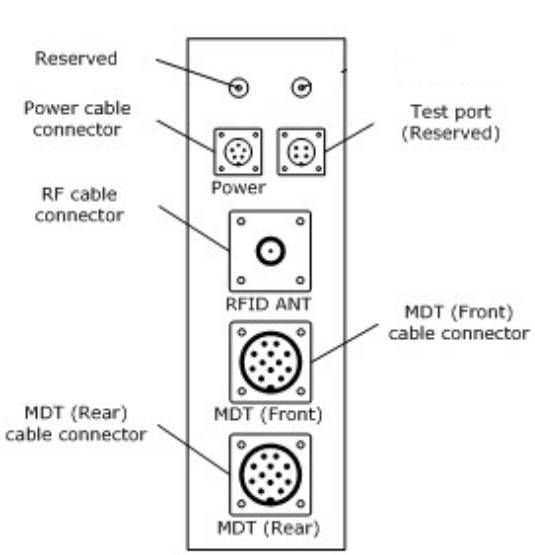
Specifications

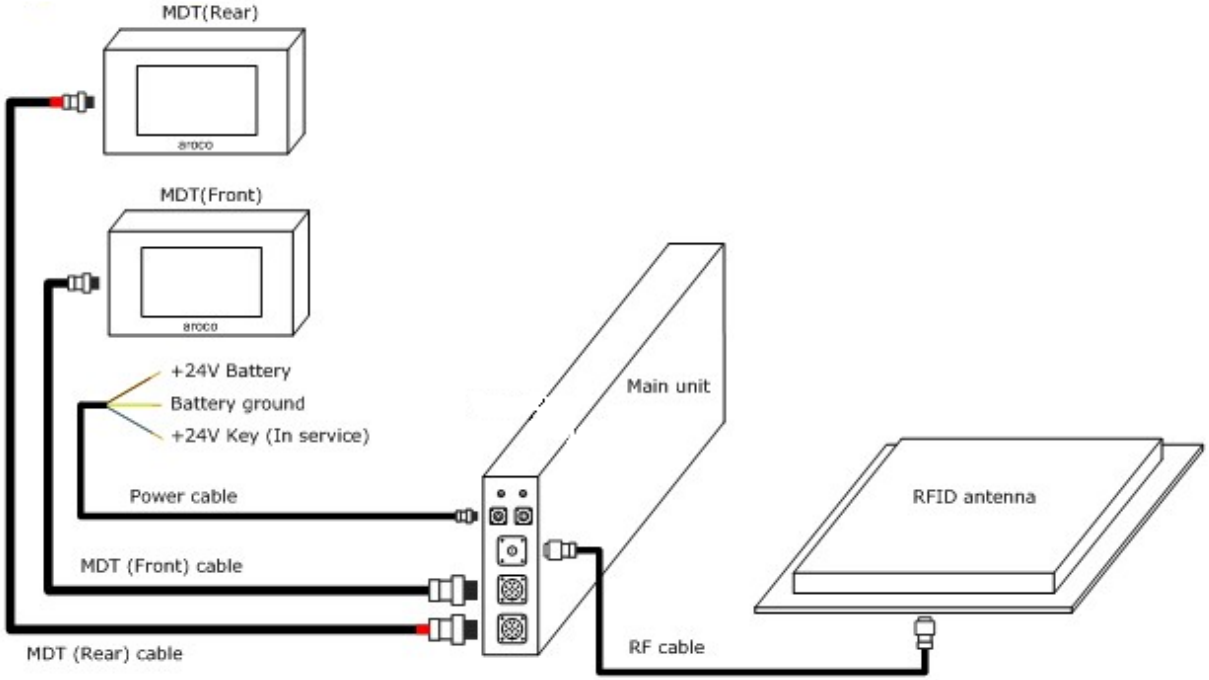
Antenna	8dBi
Dimension (L x W x H)	Approx. 281 x 280 x 44 mm
Weight	Approx. 0.8 kg
Case Material	ABS
IP Rating	IP65

Proposed Installation Position

- Mount onto aluminum plate at the bottom end of a tram

Appendix A - Wiring Diagram

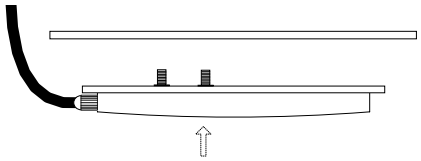




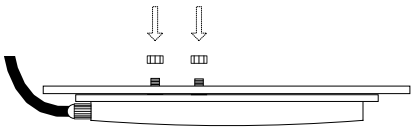
Power cable		
	Red	1. +24V Battery
	Red	2. +24V Battery
	Blue	3. +24V Key (In service)
	Black	4. Ground
	Black	5. Ground

Appendix B - Installation Guideline (RFID Antenna)

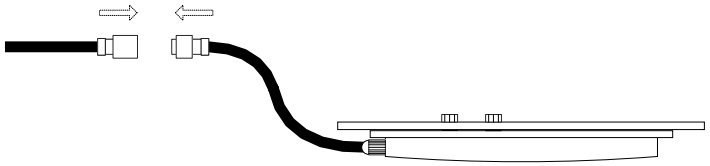
1. Install the RFID antenna onto any flat plate at the bottom of a tram
    a. The thickness of plate less than 5mm
    b. The plate must be aligned horizontally
    c. RFID antenna must not be covered or blocked by metal plate
2. Drill four holes onto the plate corresponds to the screws at the bottom of the antenna



3. Mount the antenna to the plate with lock pin



4. Connect the antenna to the RF cable on tram



Warning:

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.

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

FCC Radiation Exposure Statement:

This device and antenna must be professionally installed.

This equipment complies with FCC radiation exposure limits for uncontrolled environment .This equipment should be installed and operated with minimum distance of 20 cm between the radiator & your body.