IDRO900F2
USER'S MANUAL

V2.5.24

MAY 2012

idro
Identification with Radio and Optical

	IDRO900F2 User's Manual		
	Company	Date	Version
	IDRO Co.,Ltd	2012-05-24	V2.5.24

■ Revision history

Version	Revision Date	Revision Page	Revision Description
V2.5.24	2012-05-24		Draft

Identification with Radio and Optical

Contents

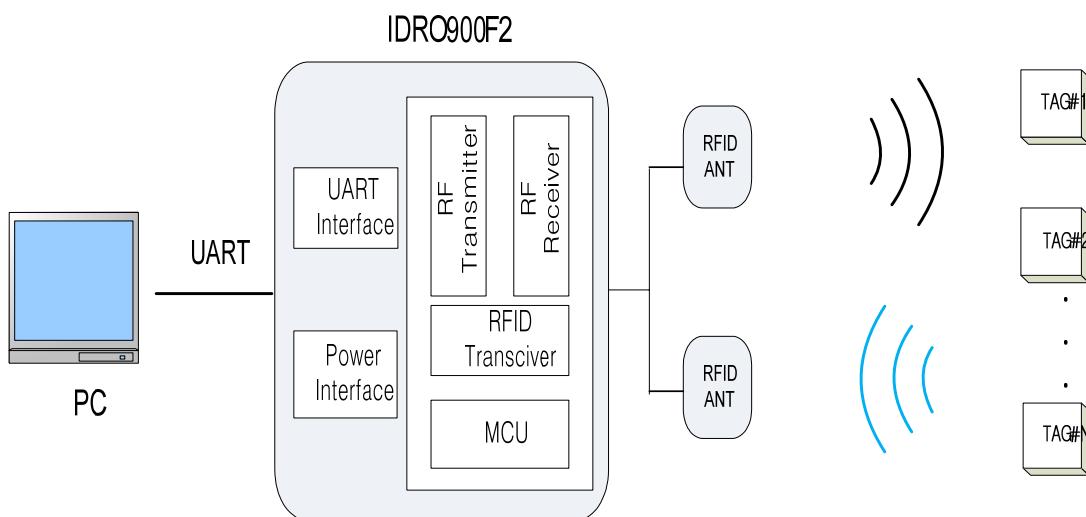**Identification with Radio and Optical**

1. Introduction & System composition diagram

● Introduction

- IDRO900F2 is the Fixed type UHF RFID that is designed for long distance, wide range application using the RS-232 interface. It provides features such as Compact size, low cost, high performance to customer.
  ISO 18000-6C(EPC C1G2) and ISO 18000-6B protocol is supported.
  Read range of Reader reaches up to 10 meters(depends on tags)

- Target Application
  Parking management system
  Factory conveyor system
  Bagging management system
  Other application

● System composition diagram

2. Composition parts

RFID Reader	
Antenna(6dBi) **(option)**	
Antenna cable **(option)**	
DC12V/3A Adaptor	
RS-232 cable	
Reader Software & **User Document CD-ROM**	

3. Reader Description

Interface
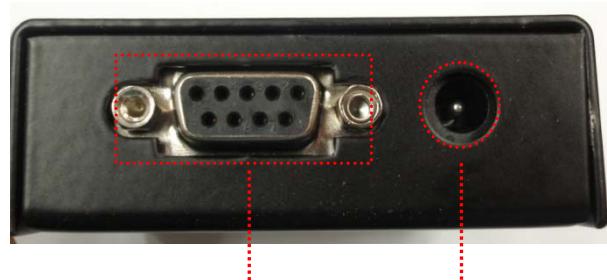
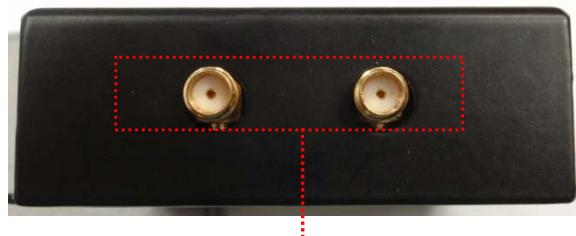**SERIAL(RS232)** : It can be locally connected to the host PC and Use to information transfer or firmware update.

DC : RFID Reader power supply port, recommend DC 12V/3A Adaptor.

ANT Port

ANT1/ANT2 : Use a 50ohm coaxial cable to connect the reader with the patch antenna. It is possible to connection up to four antennas.

Status LED

LED : It is comprised of Red Led(POWER) and Green Led(DATA) that appear status of the reader.

Status LED	
GREEN(DATA)	● It will twinkle when the reader is receiving data from a tag
RED(POWER)	● It is turned on when the reader is powered

4. Reader Specification

● Reader Performance

Description	Value
MODEL	IDRO900F2
Architecture	UHF RFID Reader
Protocol	EPC Gen2(ISO 18000-6C), ISO 18000-6B
Frequency	917.3MHz to 920.3MHz(Korea) 860MHz to 960MHz (Customizable)
Max Tx Power	30dBm±1dBm (1W)
Power control	12dBm to 30dBm (1dB step)
Hopping Channels	6 (Korea), 50(USA), 4(EUROPE)
Channel Spacing	600KHz (Korea, EUROPE), 500KHz (USA)
Channel Dwell time	< 0.4 seconds
Modulation Method	DSB-ASK, PR-ASK
Supply voltage	12V±1V
Max Current (max power)	< 2A
Tag Read Distance(Max.)	<10m
Operating Temperature	-20℃ to +50℃
LED Indicators	Data , Power
Signaling	RS-232 : Baud rate(9600bps, 115200bps),

● Interface

Host connector	RS-232 : DB-9F
ANT Connector	SMA Female R/A

● Physical Dimension

SIZE	89mm × 86.4mm × 25.5mm
Weight	? g

● **Power control level table**

Power control level	Power(dBm)
0	30
1	29
2	28
3	27
4	26
5	25
6	24
7	23
8	22
9	21
10	20
12	19
13	18
14	17
15	16
16	15
17	14
18	13
19	12

Identification with Radio and Optical

● **Mechanical Dimension**

5. Operation method

①. Run Reader@Express.exe   with window XP

②. Connect serial data cable between PC and Reader.

③. First, check "Fixed 4 Channel-IDRO900F4, Serial, COM1"

(The COM1 can change port number as environment of PC and reader)

④. Supply power to reader.   Waiting until the buzzer is sounded "beep".

⑤. Click "Reader@Controller"

→ If connection is completed, then "Inventory@Multiple" appears as follows.

⑥. Click "Inventory@Multiple" →   Reader executes to read tag

⑦. Please refer to the "Reader@Express User's manual" for more information

\<Reader@Express\>
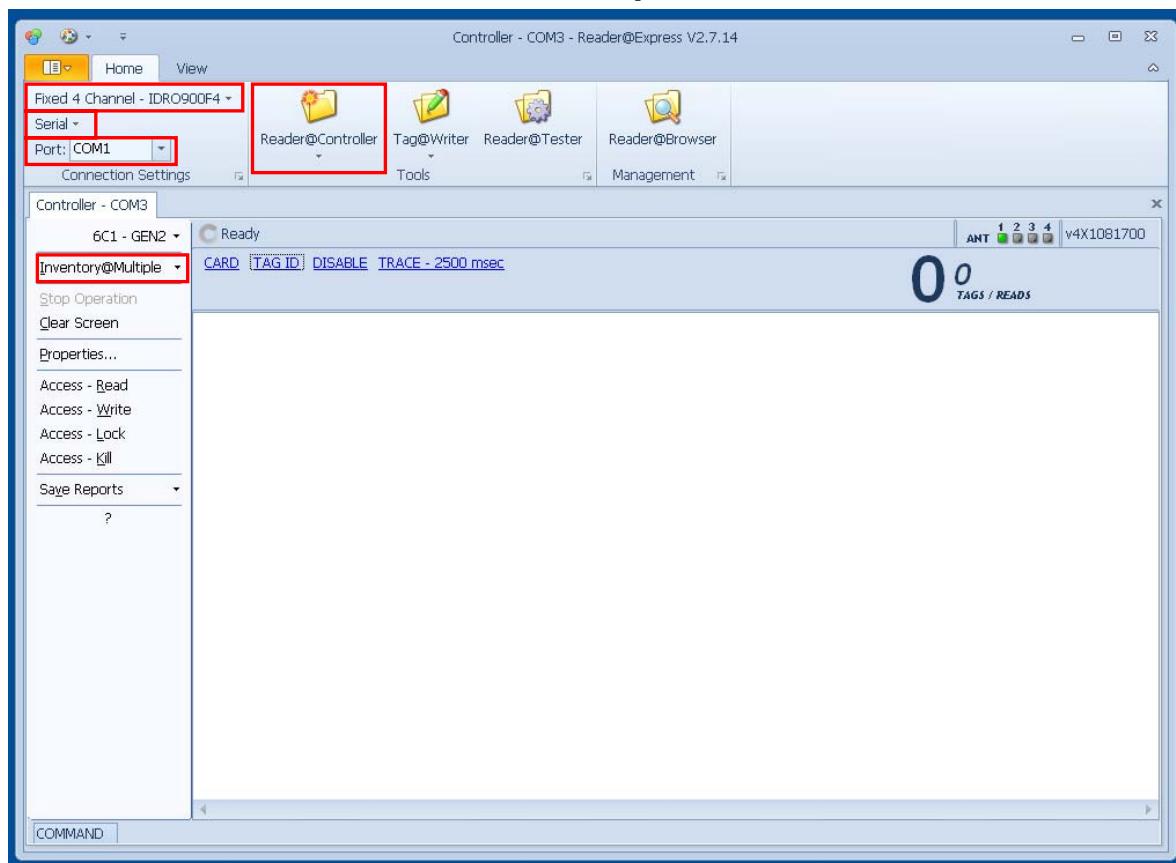
FCC Information

This device complies with Part 15 of the FCC Results. Operation is subject to the following two conditions:

(1) This Device may not cause harmful interface, and

(2) This device must accept any interference received, including interference that may cause undesired operation.

Note: This equipment has been tested and found to comply with the limits for CLASS B digital device, pursuant to Part 15 of 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 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 correct the interference by one or more of the following measures:
  1.1. Reorient or relocate the receiving antenna.
  1.2. Increase the separation between the equipment and receiver.
  1.3. Connect the equipment into an outlet on a circuit different from that to which receiver is connected.
  1.4. Consult the dealer or experienced radio/TV technician for help.

WARNING

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

IC Information

This device complies with Industry Canada license-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.

Cet appareil est conforme avec Industrie Canada RSS standard exempts de licence (s). Son utilisation est soumise à Les deux conditions suivantes: (1) cet appareil ne peut pas provoquer d'interférences et (2) cet appareil doit accepter Toute interférence, y compris les interférences qui peuvent causer un mauvais fonctionnement du dispositif.

"CAUTION : Exposure to Radio Frequency Radiation.
Antenna shall be mounted in such a manner to minimize the potential for human contact during normal operation. The antenna should not be contacted during operation to avoid the possibility of exceeding the FCC radio frequency exposure limit. The minimum separation distance of 20cm from the antenna to the body of user required."