To Costumers

Thank you very much for your favor of our products! This manual describes the usage of the FNM-8416 and amis to enable you quickly grasp the use of the product.

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IWAVE COMMUNICATIONS Co.,Ltd

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Contents

1. Introduction

FNM-8416 is a middle range (14~16km) point-to-point drone HD network downlink radio.

2.Package List

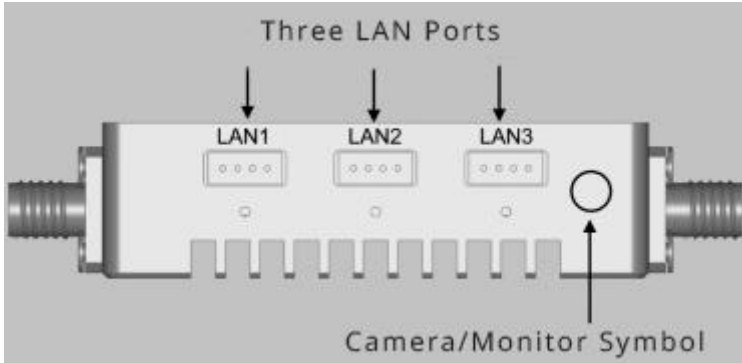Tx&Rx Power Cable*4 Ethernet Cable*6 Ant Cable*4

Rx Antenna*2

Tx Antenna*2

TTL Cable*3

3. Interfaces and Indicator Lights

- ✓ 3 LAN Ports for connecting with 4P Ethernet cable
- ✓ Each LAN port has a LED light below. The LED will flash when data is transmitting through the port.

- ✓ TTL-serial cable connect with the 5P serial port for signal transmitting(Vol: 3.3V)
- ✓ LED1 will be on when Tx and Rx are communicating with each other successfully
- ✓ LED2 and LED3 are reserved for production testing
- ✓ SMA is for antenna connecting
- ✓ Micro USB is reserved for production testing
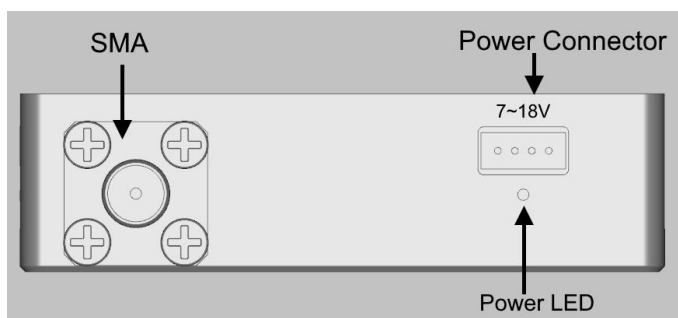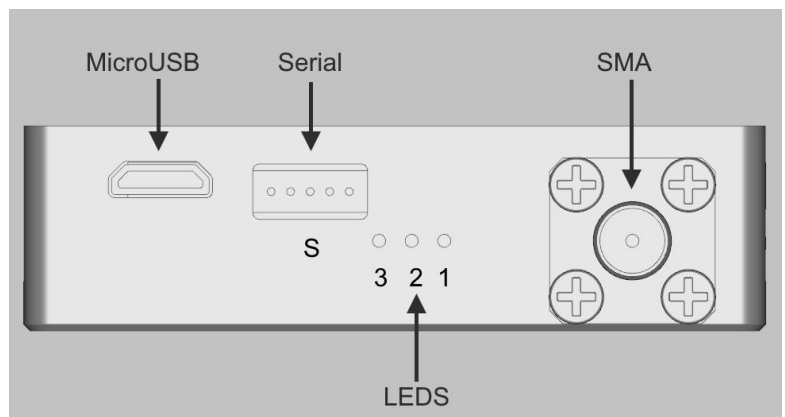
- ✓ 4P Power Input Connector (DC 7~18V)
- ✓ Power LED
- ✓ SMA is for antenna connecting.(Note: Antennas should be in good connection before power on)

4. Network Settings & Installation

4.1. Network Configuration

FNM-8416 units are working as wireless routers, the Tx and Rx connects two different network segments: 192.168.1.X(Tx) and 192.168.2.X(Rx)

Default IP address:

Transmitter(Tx)	Receiver(Rx)
192.168.1.1	192.168.2.129

Table 1

IP configuration

	Tx	Rx
IP Address	192.168.1.X	192.168.2.X
Gateway	192.168.1.1	192.168.1.129
Mask	255.255.255.0	255.255.255.0

Table 2

4.2.Installation Steps

① Connect antennas to Tx and Rx with antenna-cables
② Configure the IP/gateway/mask of devices connected with Rx and Tx (Such as IP Camera or PC) according to Table 2
③ Connect power source to Tx and Rx by power cables
④ Power on all the devices
⑤ After 10~20 seconds, if the wireless communication is established successful, LED1 on Tx and Rx will be on.
⑥ If Tx and Rx are connected with serial devices. Please refer to Serial Data Format on P7 for serial voltage/data format configuration.
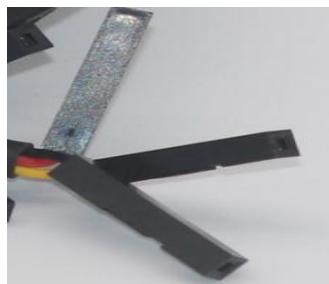
5. Cables

5.1. TTL Cables

TTL Serial cable is for transmitting 3.3V TTL signals. One end is 5P JST eGH, the pin number is shown as below.

Pin	Signal
1	TXD
2	RXD
3	3.3V output, max 500mA (power external device if necessary)
4	GND
5	Reserved

The other end is 3 dupont plugs with different color wire:

Color	Signal
Red	TXD
Yellow	RXD
Black	GND

5.2. Serial data format

Default Baud Rate	115200
Data Bits	8
Parity	No
Stop bit	1
Voltage	3.3V

5.3. Ethernet Cable

One end is standard RJ45 and the other end is 4P JST eZH header

6. Notice

✓ Before powering on, make sure all the antennas are in good connection. Because Powering on a unit without antenna as a load, the PAs inside will be damaged

✓ Two antennas on Tx or Rx should be kept at a distance as long as possible to avoid interference. If two antennas are installed very near each other, the wireless signal may become weaker and the transmission range may be shorter.