# AHD DUAL SD CARD MOBILE DVR

## Hardware User Manual

# Nysus 4 & 5

# Catalogue

# Chapter 1 Accessories and Interface

## 1. MDVR and accessories

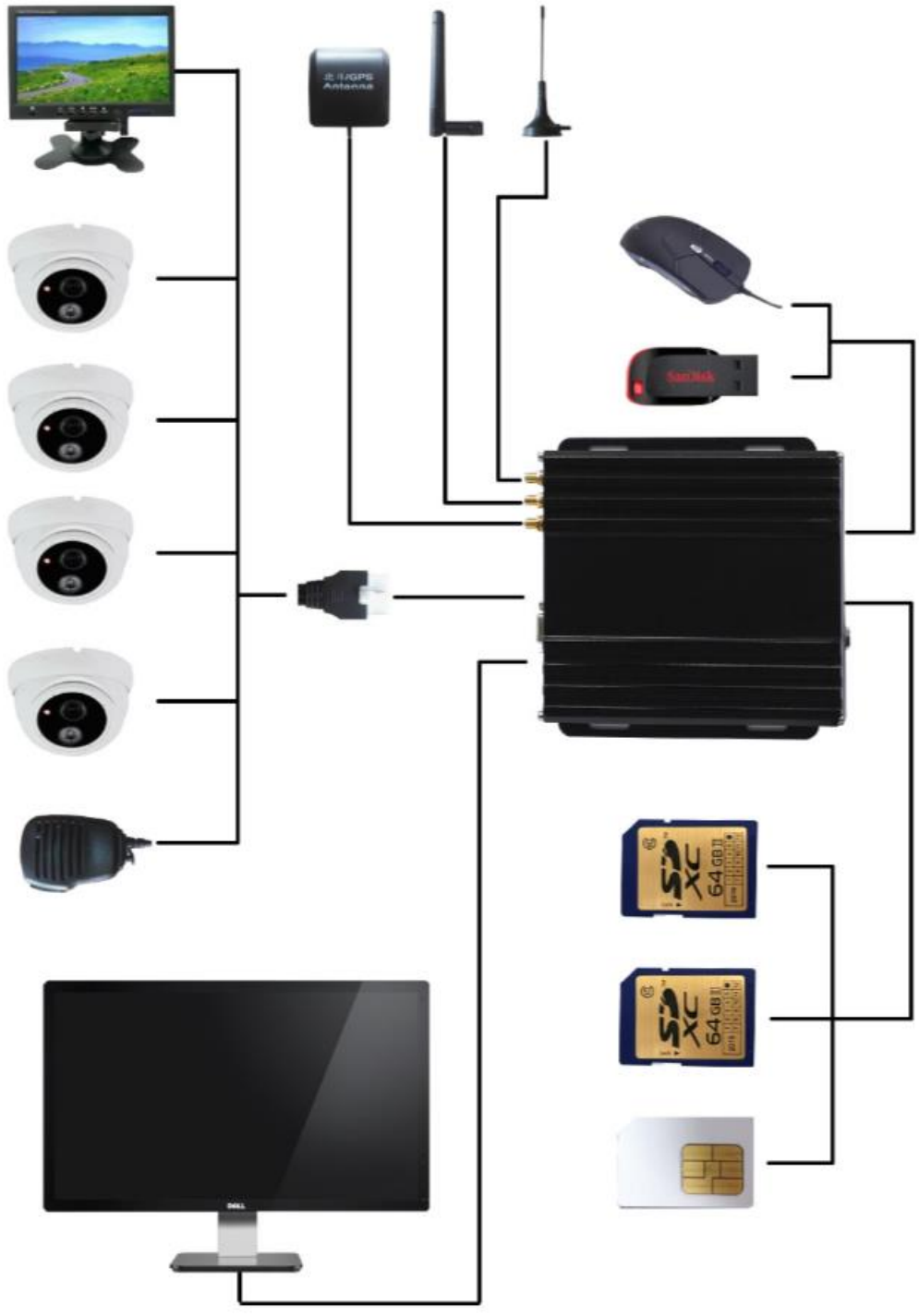
Before you use this product please check the accessories in the packing box. If there is anything missing or damaged please contact your supplier. The MDVR and accessories are listed as follows:

**List of MDVR and accessories**

| Description | Picture | Quantity |
|---|---|---|
| MDVR |  | 1 |
| Power cable |  | 1 |
| I/O cable |  | 1 |
| AV cable |  | 1 |
| GPS antenna (Optional) |  | 1 |

| | | |
|---|---|---|
| 3G/4G antenna (Optional) |  | 1 |
| Remote control (Optional) |  | 1 |
| IR Extension cable (Optional) |  | 1 |
| Mouse (Optional) |  | 1 |
| Intercom (Optional) |  | 1 |

## 2. System connection




System connection

## 3. Panel introduction


Figure 1. Front panel

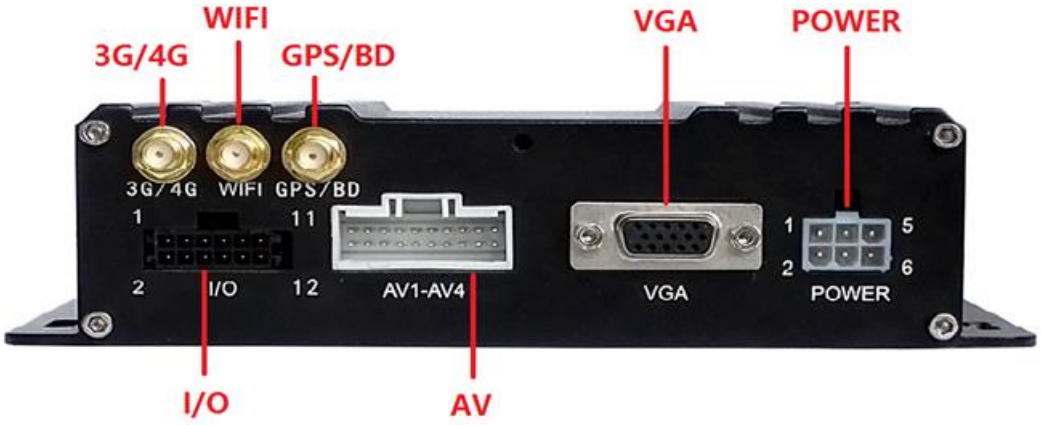



Figure 2. Back panel

## 4. Interfaces Definition

Here we introduce the definition of the interfaces of Power, I/O, AV Input & Output. See as following:

### 4.1 Power interface

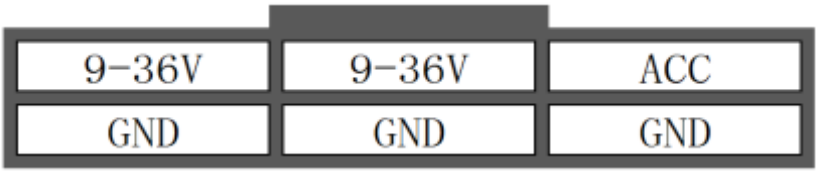



Figure 3. Power interface definition

## 4.2 I/O Interface definition

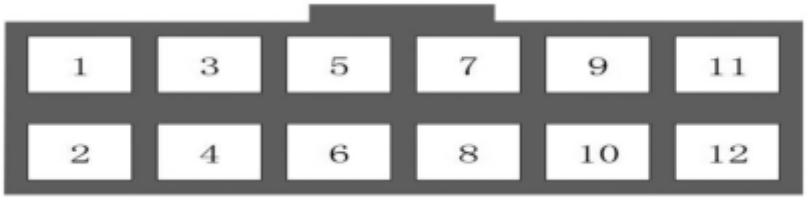



Figure 4. Front view of I/O Interface

I/O Interface definition

| PIN | Colour | Definition | PIN | Colour | Definition |
|---|---|---|---|---|---|
| 1 | Grey | IR_IN | 2 | Red | PWR_5V |
| 3 | Purple | Alarm IN1_NEG | 4 | Brown | Alarm_OUT |
| 5 | Purple | Alarm IN3_NEG | 6 | White | TXD 1 |
| 7 | Purple | Alarm IN2_POS | 8 | Yellow | RXD 1 |
| 9 | Purple | Alarm IN4_POS | 10 | Blue | TXD 2 |
| 11 | Black | GND | 12 | Green | RXD 2 |

## 4.3 Aviation interface definition


AV-IN Camera Interface


AV-OUT Monitor Interface

# Chapter 2 Installation and Application

## 1. SD card installation

Please insert the key into the hole of the lock on the front panel and turn it to unlock, then pull the cover toward right, you will see the SIM and SD card slots.


Figure 5. SD card Installation

Please insert the SD card into the slot as per the icon indication, Then close the SD cover and lock it (Please remember to lock it, otherwise, The SD card and 3G/4G will not work)


Figure 6. SD card installation

## 2. Antennas Connection

Connect the antenna to the contact indicated. We suggest you mount the GPS antenna externally on the vehicle's roof to ensure better signal connection even when coverage is weak.


Figure 7. Antennas Connection

## 3. Power Connection

Please connect the power as indicated above. Positive pole (RED) connects with power input 9-36V DC, ACC ignition (YELLOW) connects with 5-36V DC.


Figure 8. Power Connection

The yellow ignition wire is used to detect the ignition signal. We strongly suggest you connect it with the “RUN” terminal of the ignition switch, or any terminal in the vehicle’s fuse box which will only have power only when the vehicle is engaged (e.g. the FM radio)

Note: When testing the device, please connect both the red power wire and the yellow ignition wire with the positive pole, otherwise the device will not boot.

## 4. Camera Connection

You can connect the camera with the AV input cable directly, or by extension cable (optional). The AV cable is marked on each connector for cameras 1-4.


Figure 9. Cameras Connection

## 5. Monitor connection

The device supports VGA and CVBS output. You can switch the output mode to the one you need using the mouse or remote control.

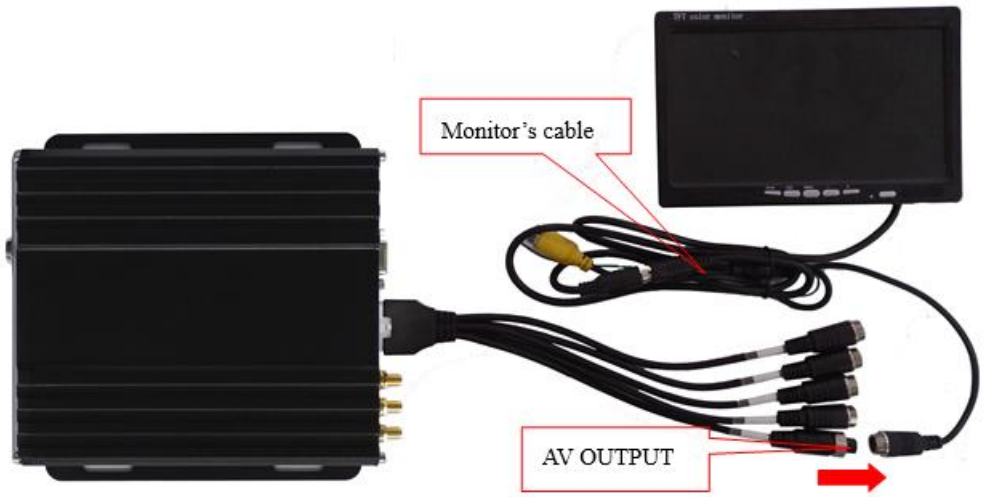



Figure 10. Aviation interface monitor connection

## 6. Intercom connection

When you're going to use the intercom, please connect the cables which come with the intercom. If the cable is not long enough for you, you can use extension cable.

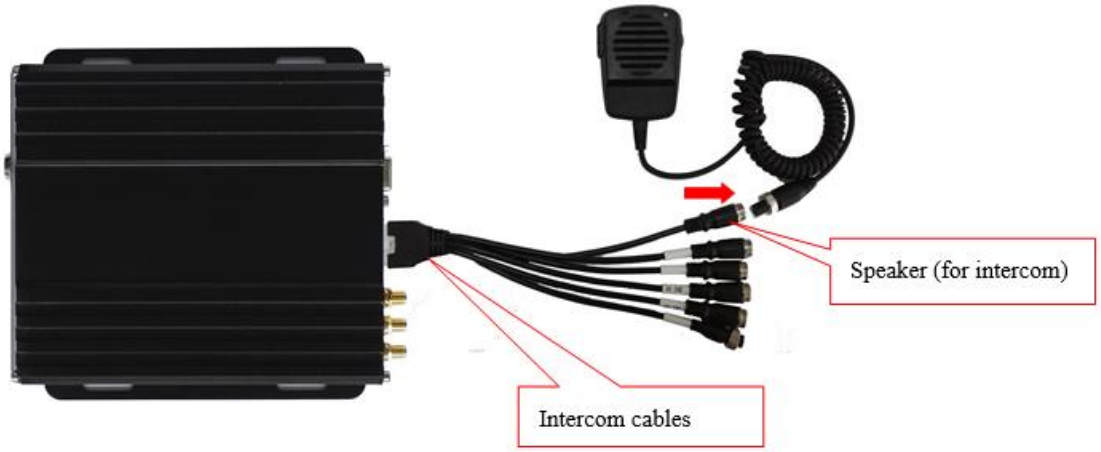



Figure 11. Intercom Connection

PS: The intercom cable only comes with the intercom, they are one set.

## 7. I/O wires connection

When you're going to use it, please connect the wires as the I/O interface definition. You will also find tips of the interface definition in the DVR menu.

### 7.1 IR extension connection


Figure 12. IR extension connection

| I/O wires | | | | IR extension cable | |
|---|---|---|---|---|---|
| PIN | Definition | Colour | ⟷ | Colour | Definition |
| 11 | Ground | Black | ⟷ | Black | Ground |

| | | | | | |
|---|---|---|---|---|---|
| 2 | 5V Output | Red | ⟷ | Red | 5V Power |
| 1 | IR extension | Grey | ⟷ | White | Signal |

IR Connection

### 7.2 Alarm input connection

This device provides 4 alarm inputs (2 Positive, 2 negative). You can connect the positive circuit to areas such as the reversing light, indicator etc for applications such as reverse monitor display and camera channels switching.

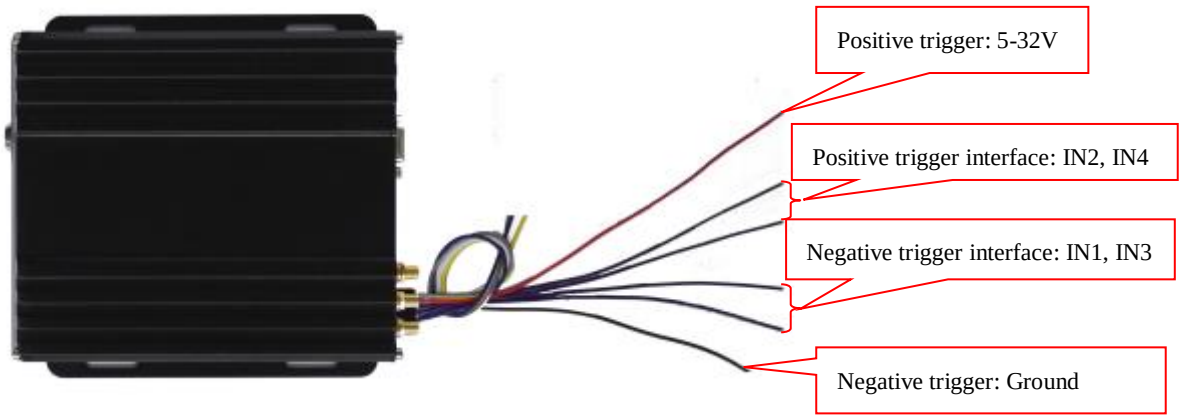



Figure 13. Alarm Input Connection

| I/O wires | | | | Alarm Trigger | |
|---|---|---|---|---|---|
| **PIN** | **Definition** | **Colour** | ⟷ | **Colour** | **Alarm trigger** |
| 3 | Alarm input1 | Purple | ⟷ | Red | Ground |
| 5 | Alarm input3 | Purple | | | |
| 7 | Alarm input2 | Purple | ⟷ | Black | 5-32V |
| 9 | Alarm input4 | Purple | | | |

Alarm Input Connection

#### 7.2.1 Application of Alarm input (Reverse assistant)

The device comes with Reverse assistant feature for example:
If you connect the wire of alarm input 2 with the positive pole of the reverse light's power. Please see below:

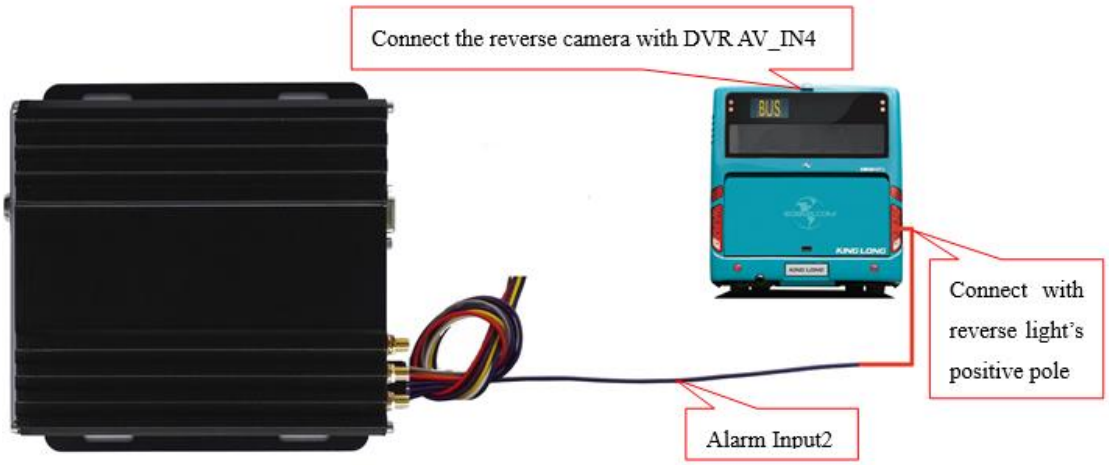
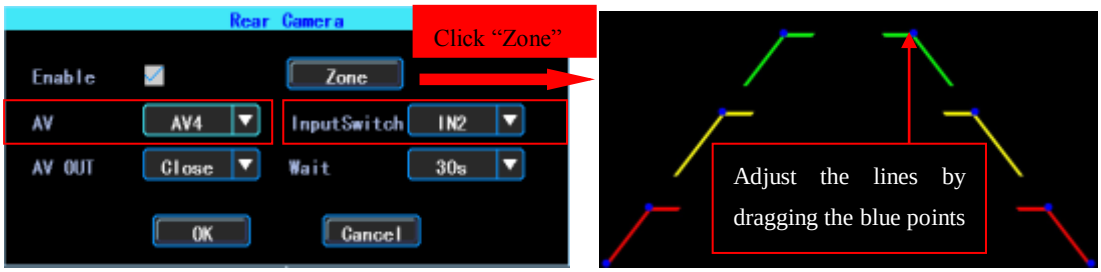



Figure 14. Reverse Assistance Connection

| I/O wires | | | | Alarm trigger | |
|---|---|---|---|---|---|
| PIN | Definition | Colour | ⟷ | Colour | Alarm Trigger |
| 7 | Alarm input 2 | Purple | ⟷ | Red | Positive pole of Reverse light |

Reverse Assistance Connection

To set it up in the DVR menu go to "Advanced"→ "Rear Camera", (see below), click "OK" to save your settings.




AV: Select the reverse camera's channel

InputSwitch: Select the alarm input number which connect with the reverse light's power

Note: When using reverse assistance use IN2, IN4 positive trigger to setup

When you enter reverse, the DVR will display the reversing camera's channel only. (See below):

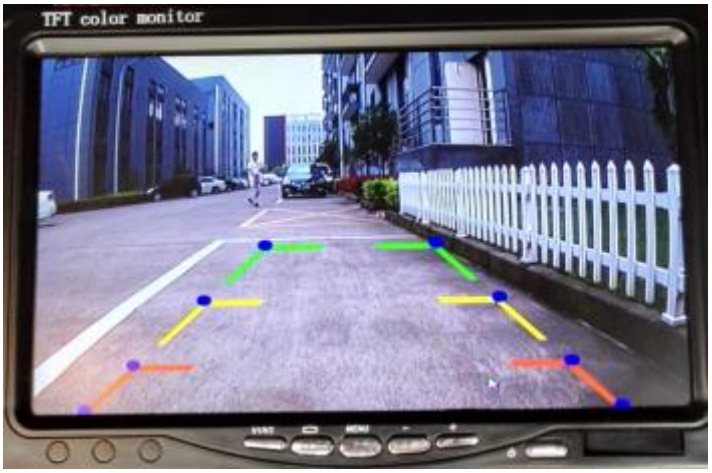



Figure 15. Reverse Assistance

### 7.2.2 Application of Alarm Input (Emergency Alarm)

You can connect an Emergency Button to the alarm input of the device. When you hit the Emergency button, the device will send alarm information to the server (This requires the DVR to be connected with the server) otherwise, the server will not receive the alarm information.

For example: Connect the I/O alarm input wire 1 with one terminal of the Emergency button, and connect the other terminal of the Emergency button with ground.

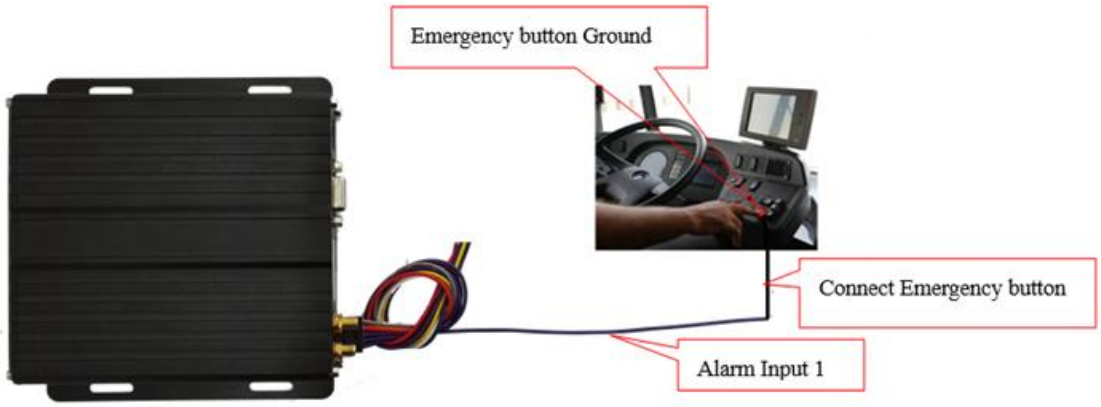



Figure 16. Emergency button connection

| I/O wires | | | | Alarm trigger | |
|---|---|---|---|---|---|
| **PIN** | **Definition** | **Colour** | ⟷ | **Colour** | **Alarm trigger** |
| 3 | Alarm input1 | Purple | ⟷ | Red | Ground |

Emergency button connection

PS: (If the connected Alarm input is Positive trigger, the other end of the Emergency button will be 5-32V DC power)

To set it up in the DVR menu go to “Alarm” → “Input”, select AlarmInput1 in the list to setup the alarm parameter. See below:

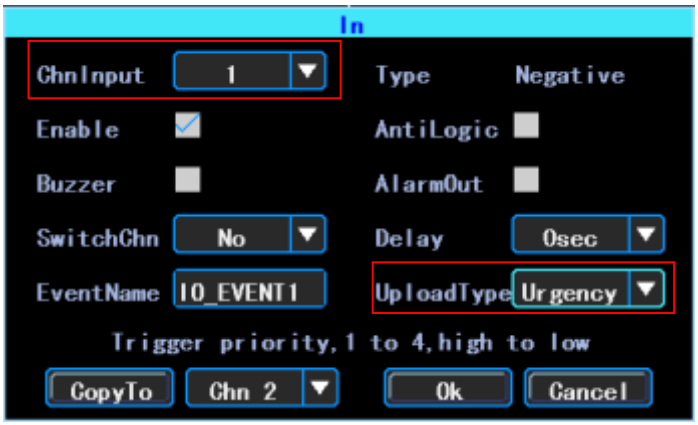



Figure 17. Setup alarm input

ChnInput: This channel is used to connect with the Emergency button.
UploadType: When you use the emergency button, set it to “Urgency”, otherwise, set it to “No”

### 7.3 Serial ports connection

The device provides 2x RS232 ports, UART0 is for TTS and fuel sensor, UART1 is for SerialNet (Pass Through)

#### 7.3.1 **TTS connection**

Connect the wire of the RS232 UART0 to match the PIN definition of the I/O interface and connect it to the TTS device as follows:

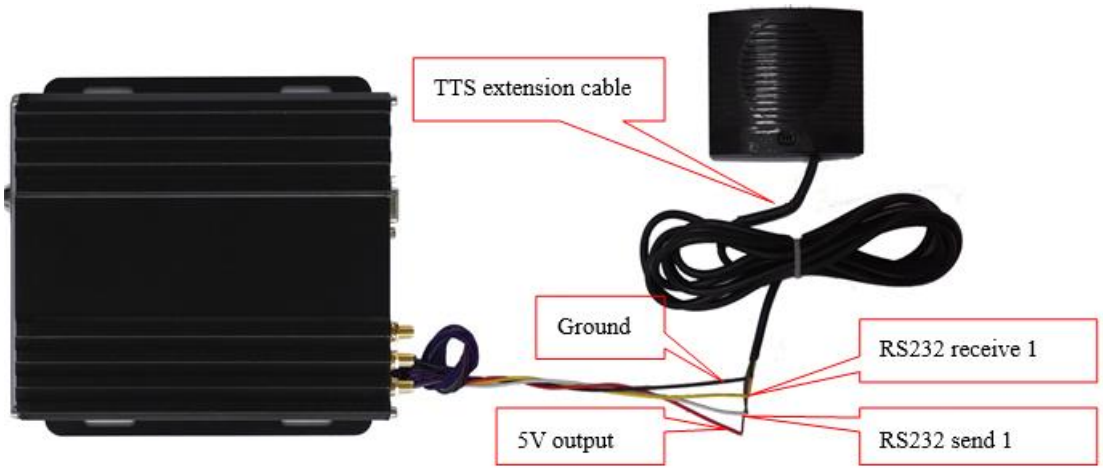



Figure 18. TTS Connection

| I/O wires | | | | TTS wires | |
|---|---|---|---|---|---|
| PIN | Definition | Colour | | Colour | Definition |
| 2 | 5V output | Red | ⟷ | Red | 5V input |
| 6 | TXD 1 | White | ⟷ | Green | RXD |
| 8 | RXD 1 | Yellow | ⟷ | Yellow | TXD |
| 11 | Ground | Black | ⟷ | Black | Ground |

TTS Connection

Path of setup in the menu: Advance->UART->UAR”0, Select “TTS” in “Function”

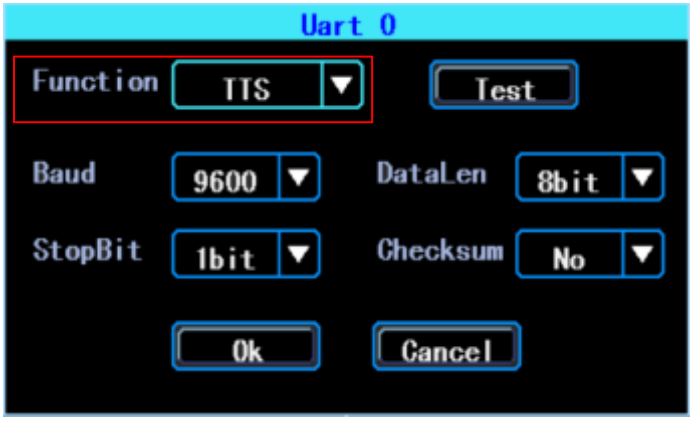



Figure 19. TTS setup

### 7.3.2 Fuel sensor connection

Connect the wire of the RS232 UART0 to match the PIN definition of the I/O interface and connect it to the TTS device as follows. The fuel sensor works with 9-36V, the DVR cannot power it.

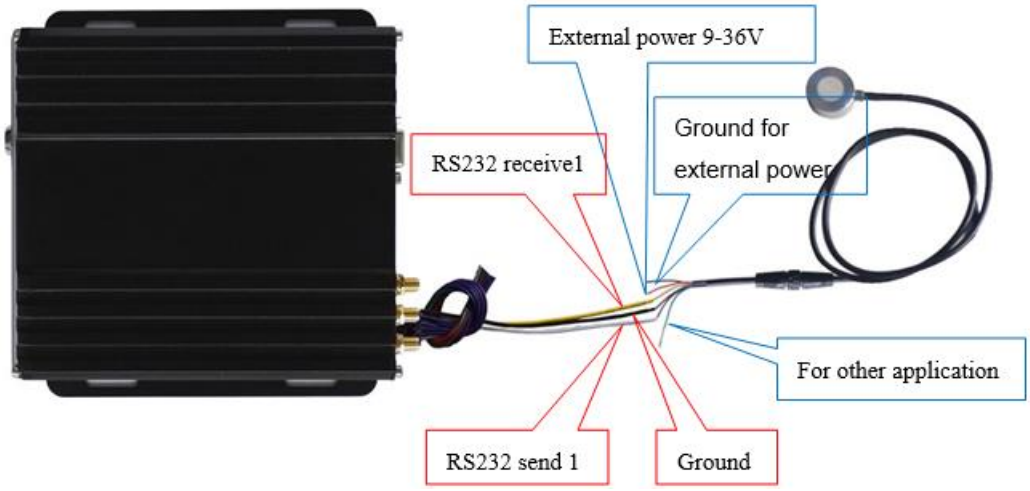



Figure 20. Fuel sensor connection

| I/O wires | | | | Fuel sensor connection | |
|---|---|---|---|---|---|
| PIN | Definition | Colour | | Colour | Definition |
| / | / | / | | Red | External power input 9V-36V |
| / | / | / | | Black | Ground of External power |
| 6 | TXD 1 | White | ⟷ | Blue | RXD |
| 8 | RXD 1 | Yellow | ⟷ | Yellow | TXD |
| 11 | Ground | Black | ⟷ | Brown | Ground |

Fuel sensor connection

Path of setup in the menu: Advance->UART->UAR”0, select “Fuel” in “Function”

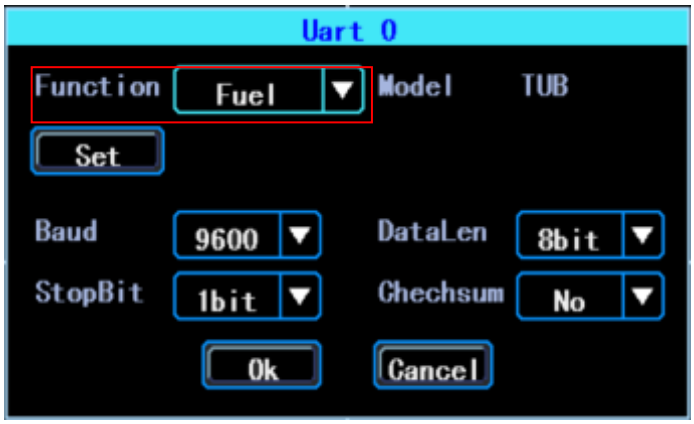



Figure 21. Fuel sensor setup