

# ONV-IoT9000 IoT Intelligent Box Product Manual

## Packing List

- IoT Intelligent control box (1 set)
- Installation accessories (1 set)

Sheet metal (hanging ears) / box door key /warranty card



## First, safety precautions

- To ensure the safety of people and equipment, when installing, operating, and maintaining the equipment, follow the signs on the equipment and the safety precautions described in the manual. “Warnings” and “notes” in this manual do not represent all safety precautions that should be followed, and are only supplementary to safety precautions.
- When carrying out various operations of our equipment, we must strictly observe the relevant equipment precautions and special safety instructions provided by ONV company. The "safety warnings" listed in the manual only reflect the requirements of ONV company. The safety requirements have not been reflected, and ONV company will not bear any responsibility for the loss caused by the violation of the general safety operation requirements or the violation of the design production and use equipment safety standards.



## Note

This intelligent box is a Class A product. In the living environment, this product may cause radio interference.

In this case, users need to take practical measures for their interference.

Class A products are EMC class A certified products.

During transportation, handling, and installation, avoid collisions between the device and objects such as doors, walls, and shelves.

## ■ Description

The figures in this document are for reference only. The appearance of the device is subject to actual delivery.

## Second, the installation environment requirements

- The intelligent box support outdoor pole mounting.

- The temperature and humidity of the installation site must be kept within the temperature and humidity range in which the smart box can work normally. For the normal temperature range and relative humidity range of the smart box, refer to the intelligent box product datasheet.
- The grounding cable of the intelligent box is an important step in the installation process. The correct connection of the grounding cable of the intelligent box is an important guarantee for lightning protection, interference prevention, and anti-static damage of the intelligent box.

### **Third, lightning protection requirements**

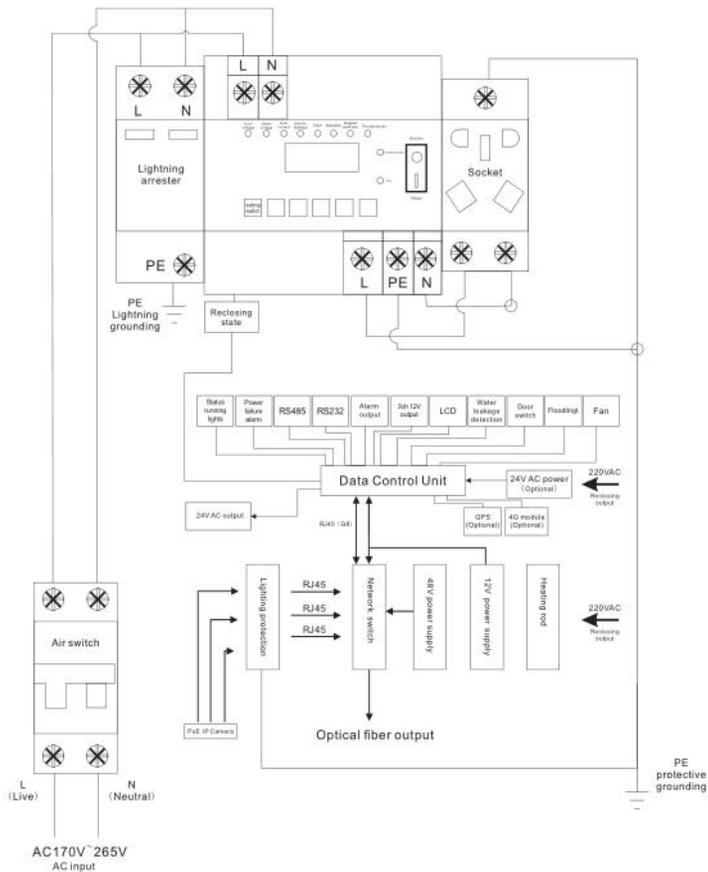
- Do not use outdoor overhead wiring. The equipment may be damaged by lightning. Please use buried or steel pipe wiring.
- Before turning on the power, the machine must be grounded to ensure that the grounding resistance of the installation environment does not exceed  $10\Omega$ , otherwise the equipment or the docking equipment

may be damaged.

## Fourth, pre-commissioning

- The ONV IoT intelligent box is modular in design, which can be flexibly configured according to the actual needs of the project, and the optimal matching function module is selected by adding/reducing. If the intelligent box needs to be commissioned, it is recommended to complete it before the smart box is installed on the pole.

The following is a diagram of the internal wiring of the intelligent box for participation



- ONV IoT intelligent box equipment support managed PoE switch module for network transmission. You can pre-configure the PoE switch network management function according to the following operations.  
(This item is ignored for intelligent boxes without PoE switch)

## **4.1 Log in to the device for the first time through the web system**

### **Know before you log in**

If the web page is displayed abnormally, the browser version may be too low. Please upgrade your browser and recommend Google chrome first. For detailed requirements, please refer to the configuration guide (Web Network Management) of the corresponding product.

### **Login steps**

1. Power on the intelligent box and confirm that the network module is working normally.

2. Use a network cable to connect the computer to any Ethernet port on the Ethernet switch.
3. Configure the computer's IP address to be on the same network segment as the default IP address of the Ethernet switch.
4. Open a browser on your computer, enter 192.168.2.1 in the address bar, and press Enter to display the web network management login interface. Enter the default user name “admin” and password “system”. click “OK” or press “Enter” to enter the web network management configuration interface.
5. Configure the Ethernet switch. The web network management configuration interface provides basic and optional configurations of the device. After the user has configured the basic configuration, he can log in to the device through the web network management. After the optional configuration is configured, he can log in to the device through Telnet. Only the content of basic configuration is introduced here. For the content of optional configuration and more product information, please refer to the configuration guide of the corresponding product.

## 4.2 Log in to the device for the first time through the console port

### Know before you log in

- The console cable is not shipped with the device and must be purchased separately.
- Please prepare third-party terminal emulation software (Secure CRT software). For usage, please refer to the software's instruction or online help.

### Login steps

1. Power on the intelligent box and confirm that the working indicator of the Ethernet switch module is on normally.
2. Connect a computer (PC) to the console port of the Ethernet switch using a console cable.
3. Open the terminal emulation software on the computer, create a new connection, set the connection port and communication parameters. The communication parameter configuration of the computer terminal must be consistent with the default configuration of the console port of the Ethernet switch.

- Transmission rate: 115200
  - Data bits: 8
  - Calibration method: None
  - Stop bit: 1
  - Flow control mode: None
4. Press "Enter" until the following terminal appears on the emulation terminal, prompting the user to enter a username and password. When logging in for the first time, the default user name is "admin" and the password is "system" .
- Passwords entered interactively are not displayed on the terminal screen. you can now type commands to configure the device. For more information, refer to the configuration guide for the corresponding product.

## Fifth, install intelligent box

### Notes for installation

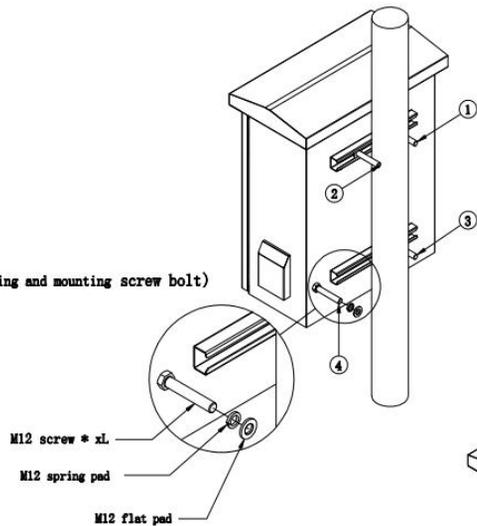
- Hold pole installation only supports vertical round pole installation.
- When installing the machine, you need to use the matching sheet metal mounting parts and screws.
- Wear protective gloves when installing.
- It is forbidden to install the intelligent box under power.
- The exterior paint of the intelligent box should be kept intact. If the paint is lost, the paint needs to be replenished immediately to prevent corrosion.

## Installation preparation tool

- Labor protection gloves
- wrench
- Ladder

## Installation steps

Step one  
(positioning and mounting screw bolt)

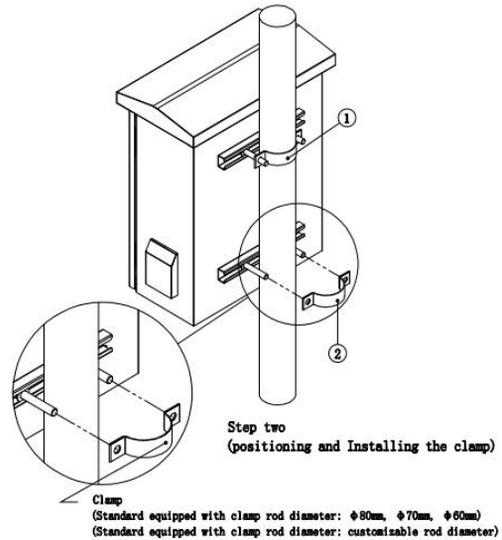


M12 screw \* xL

M12 spring pad

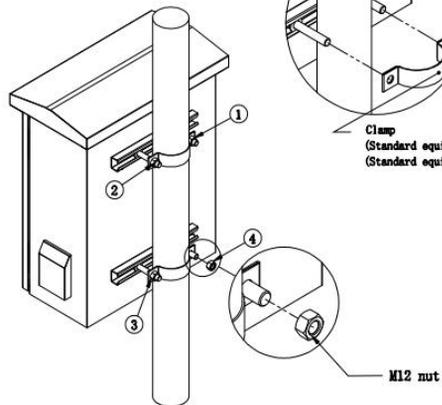
M12 flat pad

Step two  
(positioning and installing the clamp)



Clamp  
(Standard equipped with clamp rod diameter:  $\phi 80\text{mm}$ ,  $\phi 70\text{mm}$ ,  $\phi 60\text{mm}$ )  
(Standard equipped with clamp rod diameter: customizable rod diameter)

Step three  
(tighten the nut to complete the installation)



M12 nut

## Sixth, connect the intelligent box

### Description

- Route the cables connected to the intelligent box through the pole.
- The earth wire need to be prepared by the user.



- It is forbidden to install and remove the intelligent box and power cord with power on to avoid personal injury.
- The 110 / 220VAC output power supply inside the intelligent box contain air switch, voltage stabilization, lightning protection, and auto-reclosing. Please confirm the position of the air switch before connecting. Do not connect with power.
- Pay attention to the +/- or L / N mark when connecting the power cord to the terminal. Connect the live

wire of the AC power cord to L and the neutral wire to N. Install the PE wire to the PE ground terminal of the maintenance compartment.

- All power cables must not have metal parts exposed in the air.
- The maximum fiber length supported by the disk box: bare fiber single fiber support a maximum of 20m, pigtail single fiber supports a maximum of 1m, if two pc fibers are used, the maximum length supported by a single fiber will be reduced by half.

## **Seventh, check after installation**

1. Check if the sheet metal installation (mounting ears) is secure and all screws are tightened.
2. Check that all cables are connected with the correct polarity and that the connections are secure and reliable to ensure that there are no short circuits.
3. Check whether there are screw holes without screws, whether the screws of each module are firm, and

whether the door lock is intact.

4. Power-on check, check whether all the function status of the smart box is normal through the display of the data control unit.

### Hazardous substances in electronic and electrical products

Name	Toxic and harmful substances or elements					
	Lead	Mercury	Cadmium	Cr6+	PBBs	PBDE
Metal structural parts (including fasteners)	○	○	○	○	○	○
Single board / circuit module	X	○	○	○	○	○
Cables and cable assemblies	X	○	○	○	○	○

Plastic and polymer parts	○	○	○	○	○	○
Paper accessories	○	○	○	○	○	○

This form has been prepared in accordance with SJ / T 11364.

○: indicates that the content of the toxic and harmful substance in all homogeneous materials of the part is below the limit requirement specified in GB / T 26572.

X: It means that the content of the harmful substance in at least one of the homogeneous materials of the part exceeds the limit requirement specified in GB / T 26572, and there is currently no alternative.



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