Product Datasheet

IoT Intelligent O&M Module

(ONV-IoT7000-G530-DG)

OVERVIEW

The ONV-IoT7000-G530-DG series intelligent O&M module is a data acquisition and control module with high integration, powerful functions, and simple use and installation independently developed and produced by ONV. It adopts a Rail rail structure and can be directly installed in the security monitoring box, power control box, traffic control box, control cabinet, and light pole control box. The O&M module has an intelligent monitoring function that can realize mains power failure detection and equipment power monitoring, temperature control fan, remote power control, network transmission monitoring, temperature monitoring inside the box, monitoring box anti-theft, and other functions. Interact with the operation and maintenance platform of the monitoring center through the network to report on-site conditions. When there is a network interruption, equipment damage, city power interruption, equipment power consumption status changes, the temperature inside the box is too high, and the box door is forced to open, the monitoring center will be actively notified.

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The ONV-IoT7000-G530-DG intelligent O&M module has rich interfaces and powerful functions. Used in the intelligent transformation and upgrading of old monitoring boxes, the establishment of the IoT system, with extremely low cost, effectively improving the reliability and stability of the unattended system, simplifying maintenance methods, and improving the efficiency of operation and maintenance. It is suitable for smart security IoT projects such as safe cities, smart transportation,smart cities, municipal facilities, environmental management, natural disaster monitoring and monitoring, water conservancy facilities monitoring and monitoring, and communication base station monitoring.

FEATURE

Power consumption monitoring

◇ The O&M module can support 5*AC220V, 2*AC24V, 3*DC12V output voltage and current monitoring, real-time power consumption status, fault information uploaded to the management platform. It can distinguish the front-end reclosing (input) power failure, back-end (output) power failure status.

◇ The O&M module can support backup power failure alarm function. It provides 1* AC220V backup power output, when the mains power is cut off, it will automatically switch to the built-in UPS power supply to ensure that the equipment sends the power failure information back to the monitoring center in time

Network communication monitoring

◇ The O&M module can support 1*10/100M Ethernet communication monitoring to upload the network connection status and fault information to the management platform in real-time.

◇ The O&M module can support the network watchdog function to automatically analyze and judge the network status. When the network port communication is abnormal, it can automatically restart the switch port power supply to restore the network status.

Remote control

◇ The O&M module can support the remote restart of the camera/switch/PON device power supply to realize remote fault repair.

◇ The O&M module can support timing control, can run offline and locally, does not depend on the monitoring center, and can still be executed as planned in the case of a network interruption.

■ Fan control

◇ The O&M module can remotely set the temperature linkage value. When the temperature reaches the set value, it will automatically start the fan to work and monitor the working status of the fan in real-time. When the fan works abnormally, it will issue a fault warning.

■ Lighting control

◇ The O&M controller has a built-in light sensing control circuit. When the door is opened and the external light is insufficient, the LED lighting in the box will automatically turn on. At the same time, the platform can monitor the working status of the lighting in real-time, and the on/off status of the lighting will be displayed on the platform simultaneously.

■ Box door tamper detection

◇ The O&M module can be connected to the box door detection switch to detect the status of the box door to prevent the equipment box from being abnormally opened and the equipment in the box to be stolen. Support arming, disarming, automatic disarming, and other modes.

■ Real-time status query

◇ The O&M module is equipped with a high-definition OLED display to directly query the cabinet environmental variables such as switch, fan, temperature/humidity status, power supply working status, network communication status, etc.

■ Metal shell

◇ The O&M module adopts a 3.0mm thick aluminum shell to ensure that the product is durable

and provides excellent heat dissipation performance. It ensures the stable operation of the O&M module in a harsh outdoor environment. At the same time, it supports 35mm DIN-Rail installation and adapts to various cabinet installations, which is simple and convenient.

■ Efficient operation and maintenance

◇ When the module device is online, it only needs to scan the code using the operation and maintenance mobile APP to automatically enter the management platform system without additional configuration.

◇ After networking, it can be linked with the platform in real-time, remotely manage and view the operation of front-end equipment, operate the power supply status of the equipment, check the installation location of the equipment, realize fault alarm, fault location, remote control, automatic dispatch of work orders, etc. Real-time monitoring of equipment box operation status.

◇ When the front-end equipment is abnormal, the alarm information will be uploaded to the platform or the management personnel will be notified, and the platform will intelligently classify whether a maintenance work order is generated, and a QR code dispatch work order will be formed. The maintenance personnel can view the dispatch work order in the APP to proceed in time troubleshooting. The centralized management cloud platform has alarm records, historical operation records, fault statistical analysis reports, and operation log records.

TECHNICAL SPECIFICATION

Model	ONV-IoT7000-G530-DG
Power Input/Output Control	
Input Working Voltage	1*AC220V 50-60Hz input, 3P industrial terminal connection 1*AC24V input, 2P industrial terminal connection 1*DC12V input, 2P industrial terminal connection (collecting the

	working voltage of the control board)
AC220V Power Output	4*AC220V/1A output, maximum load 220W, support voltage current detection, remote control on/off, 2P industrial terminal connection.
AC220V UPS Backup Power Output	1*AC220V UPS backup power output, support voltage current detection, remote control on/off, 2P industrial terminal connection.
AC24V Power Output	2*AC24V/2.5A output, maximum load 60W, support voltage current detection, remote control on/off, 2P industrial terminal connection.
DC12V Power Output	3*DC12V/2A output, maximum load 24W, support voltage current detection, remote control on/off, 2P industrial terminal connection.
Power Consumption	Standby<15W, Full Load<2000W
Data Control Unit	
Master Chip	CPU: ARM 108MHz, RAM:1M+64KByte, Flash:512Byte
Data Port	3*RS485 (Optional 1*RS232)
I/O Port	1*RS485 reclose communication port, 1*Fan I/O port 1*Lighting I/O port, 1*I/O detection port for door status 1*Power failure alarm I/O port (**Note:** Rail modules with built-in power supply do not have the port)
Environment Variable	Temperature/humidity monitoring, illuminance monitoring, OLED display to check the status
Ethernet Port	1*10/100Base-TX RJ45 adaptive port
Ethernet Standard	IEEE802.3 10Base-TX,IEEE802.3u 100Base-TX
LED Indicator	Power (Green), Running(Green), Fault(Red)
Physical Parameter	
Operation TEMP / Humidity	-40~+70°C, 5%~90% RH Non condensing
Storage TEMP / Humidity	-40~+85°C, 5%~95% RH Non condensing
MTBF	>100,000 hours

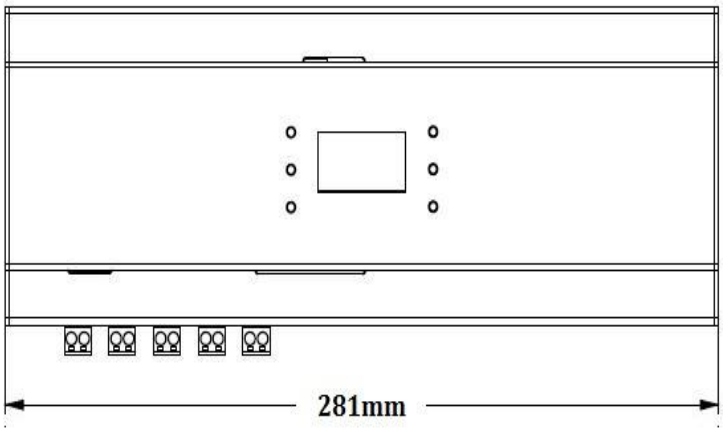
Dimension (L*W*H)	245*102* 56mm
Net /Gross Weight	<1.3kg / <2.0kg
Installation	DIN-Rail, Wall-mounted
Certification & Warranty	
Lightning Protection / Protection Level	Lightning protection: 4KV 8/20us; Protection level: IP40
Certification	CE mark, commercial, CE/LVD EN60950, FCC Part 15 Class B, RoHS
Warranty	2 years, lifelong maintenance.

PRODUCT INTERFACE FUNCTION LIST

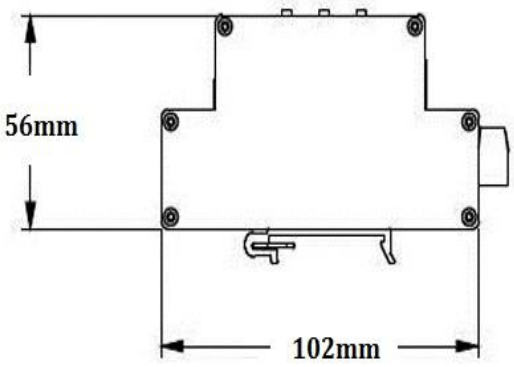
Model	ONV-IoT7000-G530-DG	ONV-IoT7000-G530-ND
Function & Interface		
1*AC220V Input	Y	Y
1*AC24V Input	Y	N
1*DC12V Input	Y	N
4*AC220V Output	Y	Y
1*AC220V UPS Output	Y	Y
2*AC24V Output	Y	N
3*DC12V Output	Y	Y
2*RS485	Y	Y
1*RS485/RS232	Y	Y
1*10/100M Ethernet	Y	Y
1*Fan I/O Port	Y	Y
1*Lighting I/O Port	Y	Y
1*Box Door I/O Port	Y	Y
Power Failure Alarm	Y	Y

1*Automatic Reclosing RS485 Port	Y	Y
1*OLED Display	Y	N
Wall-mounted	N	Y
DIN-Rail	Y	N
Note	DC12V input power, AC24V input power, and AC220V input power need to be provided separately. The O&M module must provide DC12V voltage to work normally. The O&M module has no power supply.	AC220V input can work

DIMENSION



Front



Side

OPTIONAL ACCESSORIES

Model	Description
ONV-IoT7000-SW6G2F-DG	Dimension: 148*102*56mm, DIN-Rail installation Support IPv4/IPv6 management, L3 static routing function 6*10/100/1000M adaptive RJ45 ports and 2*100/1000M SFP optical ports The switch has network management functions such as QoS, STP/RSTP, IGMP, DHCP, SNMP, VLAN, ERPS ring network, etc. Support PoE function expansion, max support 4*30W POE power output Support ONV-NMS cloud platform management and mobile APP operation and maintenance
ONV-IoT7000-UPS220-DG	Dimension: 121*102*56mm Support DIN-rail and wall-mounted, IP40 protection level. Support 1* power failure alarm signal port. Aluminum alloy metal shell, superheat dissipation, sturdiness, and durability. Rated input AC100-240V, 50-60Hz, provides DC12V and AC220V backup power output, to meet the power supply needs of various terminals. Built-in intelligent balance protection circuit, support output overload, overvoltage, short circuit protection to ensure high reliability. The preferred long-life supercapacitor does not require battery replacement.

PACKING LIST

	CONTENT	QTY	UNIT
PACKING LIST	IoT intelligent O&M module	1	SET
	User guide	1	PC
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CONTACT US

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