V1.0 July 2023

IGMG-8224D-D5G / IGR-40D / IDS-8224D / IGAP-810D

Industrial WIFI5 Router Gateway with Serial port and 4x10/100/1000Base-T(X)

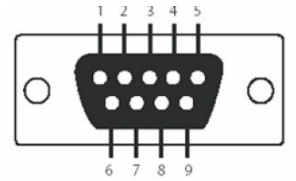
Features

- **High Speed Air Connectivity: WLAN interface support up to 867Mbps link speed with concurrent dual band operating**.
- Provide 4 port 10/100/1000Base-T(X) port with RJ45 connector
- Highly Security Capability: WPA/WPA-PSK(TKIP,AES)/ WPA2/WPA2-PSK(TKIP,AES)/802.1X Authentication supported
- Secured Management by HTTPs
- Various kind of WAN Connection Type supported: Dynamic/Static IP, PPPoE, Modem/Dial Up
- IP table to prevent access from unauthorized IP address
- Support VPN for secured network connection (Open VPN , IPSEC, VPN)
- Support NAT Setting (Virtual Server, Port Forward)
- Support **Modbus TCP/RTU** industrial protocols
- Wireless connecting status monitoring
- Versatile modes & event alarm by e-mail
- 12 ~ 48Vdc dual power input
- Support Multiple-SSID to 4 SSID
- Provide 2 Digital Input and 2 Digital Output
- Provide full function RS232/422/485 with DB9 connector
- Support Micro SD card
- Rigid IP-30 housing design
- DIN-Rail and Wall-mount enabled

Introduction

IGMG-8224D-D5G is a reliable WIFI5 WLAN VPN router with 4 ports 10/100/1000Base-T(X) router where ETH1 to ETH3 for LAN and ETH4 for WAN. It supports 802.1X and MAC filter for security control. It could be configured to operate in 3 modes of routing function: Dynamic/Static IP route, PPPoE authentication, and Modem dial up. Therefore, IGMG-8224D-D5G is one of the best solution for applications of gateway communication.

Pin Definition

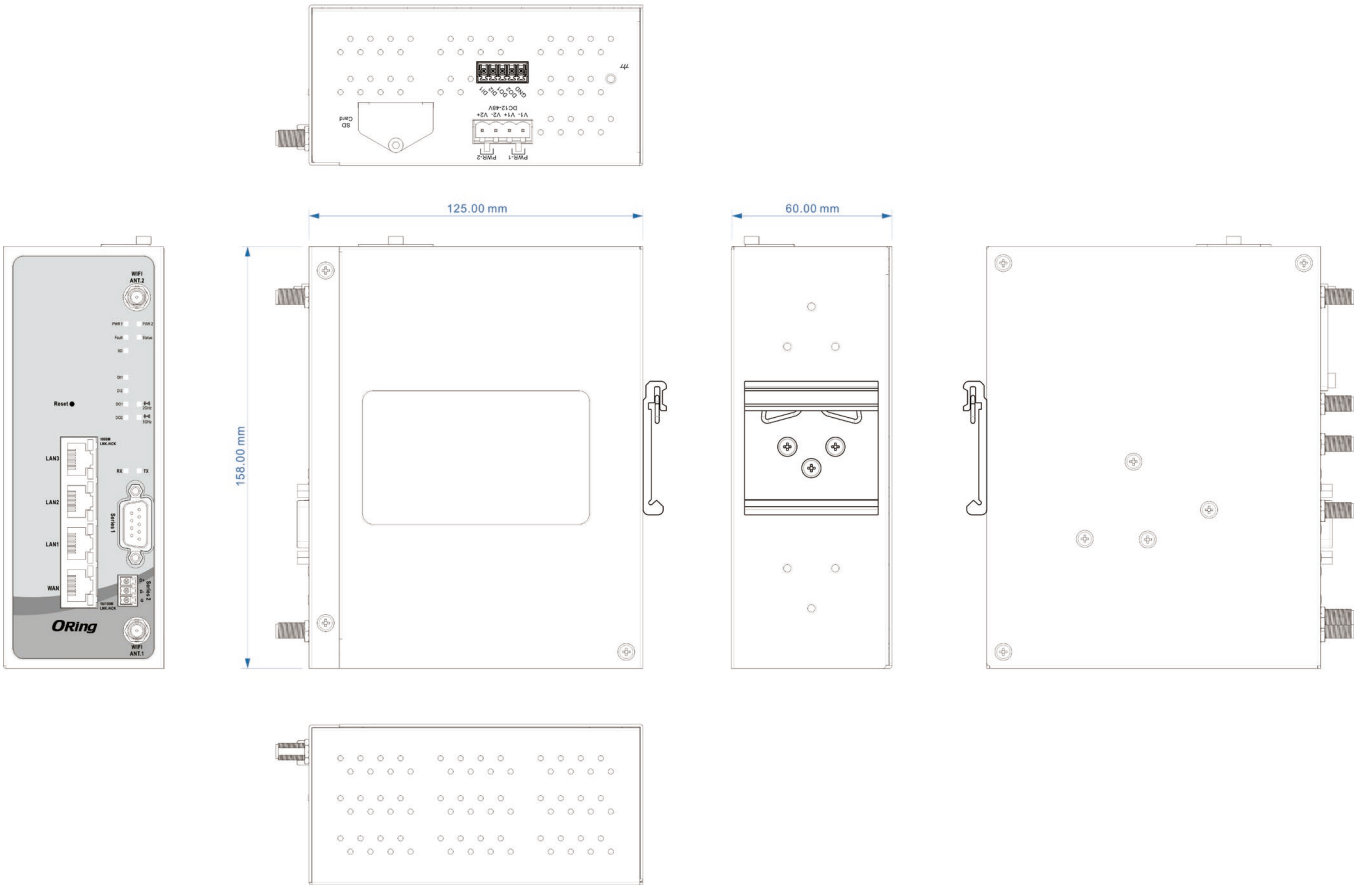


DB9 connector

Pin #	RS-232	RS-422	RS-485 (4 wire)	RS-485 (2 wire)
1	DCD	TX-	TX-	DATA -
2	RXD	TX+	TX+	DATA +
3	TXD	RX+	RX+	
4	DTR	RX-	RX-	
5	GND	GND	GND	GND
6	DSR			
7	RTS			
8	CTS			
9	RI			

Dimension

Dimension (Unit =mm)



Specifications

ORing Model	IGMG-8224D-D5G
Physical Ports	
10/100/1000 Base-T(X) Ports in RJ45 Auto MDI/MDIX	**3 LAN +1 WAN**
5-Pin Terminal Block	**DI x 2** and **DO x 2 :** Dry Contact: On: short to GND, Off: open Wet Contact (DI to COM/GND): On: 0 to 3VDC, Off: 10 to 30VDC
RS-232 Serial port in DB9	**115200, 8 ,N ,1**
RS-485 Serial port in Termianl Block	**D+, D-, GND**
SD Slot	Standard SD
WLAN interface	
Antenna Connector	2 x Reverse SMA Female
Modulation	802.11a: OFDM 802.11b: CCK, DQPSK, DBPSK 802.11g: OFDM 802.11n: BPSK, QPSK, 16-QAM, 64-QAM 802.11ac: BPSK, QPSK, 16-QAM, 64-QAM, 256-QAM
Frequency Band	**America / FCC / NCC:** **Wi-Fi 2.4G** IEEE 802.11b Mode: 2412 - 2462 MHz (11 Channels) IEEE 802.11g Mode: 2412 - 2462 MHz (11 Channels) IEEE 802.11n HT 20 Mode: 2412 ~ 2462 MHz (11 Channels) IEEE 802.11n HT 40 Mode: 2412 ~ 2452 MHz (7 Channels) **UNII-1** IEEE 802.11a : 5180 ~ 5240 MHz (4 Channels) IEEE 802.11n HT20 : 5180 ~ 5240 MHz (4 Channels) IEEE 802.11ac VHT20 : 5180 ~ 5240 MHz (4 Channels) IEEE 802.11n HT40 : 5190 ~ 5230 MHz (2 Channels) IEEE 802.11ac VHT40 : 5190 ~ 5230 MHz (2 Channels) IEEE 802.11ac VHT80 : 5210 MHz (1 Channel) **Europe CE / ETSI:** **Wi-Fi 2.4G** IEEE 802.11b Mode: 2412 ~ 2472 MHz (13 Channels) IEEE 802.11g Mode: 2412 - 2472 MHz (13 Channels) IEEE 802.11n HT 20 Mode: 2412 ~ 2472 MHz (13 Channels) IEEE 802.11n HT 40 Mode: 2412 ~ 2462 MHz (9 Channels) **UNII-1** IEEE 802.11a: 5180 ~ 5240 MHz (4 Channels) IEEE 802.11n HT20 : 5180 ~ 5240 MHz (4 Channels) IEEE 802.11ac VHT20:5180 ~ 5240 MHz （4 Channels） IEEE 802.11n HT40 :5190 ~ 5230 MHz （2 Channels） IEEE 802.11ac VHT40:5190 ~ 5230 MHz （2 Channels） IEEE 802.11ac VHT80 : 5210 MHz (1 Channel)
Transmission Rate	802.11b: 1/2/5.5/11 Mbps 802.11a/g: 6/9/12/18/24/36/48/54 Mbps 802.11n: UP to 300 Mbps 802.11ac: up to 867Mbps
Transmit Power (Avg power)	**WIFI 2.4GHz(DTS)** IEEE 802.11b_CH0 25.00 dBm IEEE 802.11b_CH1 25.00 dBm IEEE 802.11g_CH0 18.50 dBm IEEE 802.11g_Ch1 19.50 dBm IEEE 802.11n HT 20 (MIMO) 20.00 dBm IEEE 802.11n HT 40 (MIMO) 17.50 dBm **WIFI 5.2GHz(U-NII 1)** IEEE 802.11a_CH0 20.00 dBm IEEE 802.11a_CH1 21.00 dBm

	IEEE 802.11n HT 20 (MIMO) 21.50 dBm IEEE 802.11n HT 40 (MIMO) 24.00 dBm IEEE 802.11ac VHT 20 (MIMO) 21.50 dBm IEEE 802.11ac VHT 40 (MIMO) 24.00 dBm IEEE 802.11ac VHT 80 (MIMO) 17.50 dBm
Receiver Sensitivity	IEEE 802.11a : -75dBm ± 2dBm@54Mbps IEEE 802.11b : -90dBm ± 2dBm@11Mbps IEEE 802.11g : -75dBm ± 2dBm@54Mbps IEEE 802.11gn HT20:-72dBm ± 2dBm@MCS7 IEEE 802.11gn HT40:-70dBm ± 2dBm@MCS7 IEEE 802.11an HT20:-72dBm ± 2dBm@MCS7 IEEE 802.11an HT40:-69dBm ± 2dBm@MCS7 IEEE 802.11ac VHT80:-60dBm ± 2dBm@MCS9
Encryption Security	WEP: (64-bit ,128-bit key supported) WPA/WPA2 :802.11i(WEP and AES encryption) WPA-PSK (256-bit key pre-shared key supported) 802.1X Authentication supported TKIP encryption
Wireless Security	SSID broadcast disable
LED indicators	
Power indicator	2 x LEDs, PWR1(2) / Ready: Green On: Power is on and functioning Normal
Fault	Green On: When fault event occurs
Status	Green Blinking: System Booting, Green Solid On:System Ready
SD	Green On: Working
DI/O LEDs	4 x LEDs Green Solid On: High, Off:Low
2.4GHz LED	Green On : Working; Off:RF disable
5GHz LED	Green On : Working; Off:RF disable
Serial TX/RX LED	Green : Receiving data Green : Transmitting data
Ethernet Port Indicator	8 x LEDs, LNK: Green for port Link/AcT for 1000Base-T(X) LNK: Green for port Link/AcT for 10/100Base-T(X)
Power	
Redundant Input power	Dual DC inputs. 12-48VDC on 4-pin terminal block
Power consumption	13.9w
Overload current protection	Present
Reverse polarity protection	Present
Physical Characteristic	
Enclosure	IP-30
Dimension (W x D x H)	60(W) x 125(D) x 158(H) mm
Weight (g)	1100g
Environmental	
Storage Temperature	-40 to 85oC (-40 to 185°F)
Operating Temperature	-30 to 70°C (-22 to 158°F)
Operating Humidity	5% to 95% Non-condensing
Regulatory approvals	
EMI	FCC Part 15, CISPR (EN55022) class A
EMS	EN61000-4-2 (ESD), EN61000-4-3 (RS), EN61000-4-4 (EFT), EN61000-4-5 (Surge), EN61000-4-6 (CS), EN61000-4-8, EN61000-4-11
Shock	IEC60068-2-27
Free Fall	IEC60068-2-31
Vibration	IEC60068-2-6
Safety	EN60950-1
Warranty	5 years

Packing List

- **IGMG-8224D-D5G x 1**
- **Wall-Mount Kit x 2**
- **Quick Installation Guide x 1**
- **CD QRcode x 1**
- **WIFI Antenna x 2**
- **3pin Terminal Block x 1**
- **4pin Terminal Block x 1**
- **5pin Terminal Block x 1**

15.21
You are cautioned that changes or modifications not expressly approved by the part responsible for compliance could void the user's authority to operate the equipment.

FCC RF Radiation Exposure Statement:
1. This Transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.
2. This equipment complies with RF radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated, keeping the radiator at least 20cm or more away from the person's body.

FCC Warning:

This device complies with Part 15 of the FCC Rules. Opera on is subject to the following two condi ons: (1) this device may not
cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired opera on.
This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protec on against harmful interference in a residen al installa on. This
equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruc ons, may cause harmful interference to radio communica ons. However, there is no guarantee that interference will not
occur in a par cular installa on. If this equipment does cause harmful interference to radio or television recep on, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
-Reorient or relocate the receiving antenna.
-Increase the separation between the equipment and receiver.
-Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
-Consult the dealer or an experienced radio/TV technician for help.

限用物質聲明書

設備名稱：工業路由器 Equipment name				型號（型式）： IGMG-8224D-D5G_TW Type designation (Type)		
單元Unit	限用物質及其化學符號 Restricted substances and its chemical symbols					
	鉛Lead (Pb)	汞Mercury (Hg)	鎘Cadmium (Cd)	六價鉻 Hexavalent chromium (Cr^{+6})	多溴聯苯 Polybrominated biphenyls (PBB)	多溴二苯醚 Polybrominated diphenyl ethers (PBDE)
金屬機構件 ME Metal	○	○	○	○	○	○
塑膠機構件 ME Plastic	○	○	○	○	○	○
電路板 PCBA	—	○	○	○	○	○
線材 Cable	○	○	○	○	○	○
包裝材 Packing	○	○	○	○	○	○

備考1.〝超出0.1 wt %〞及〝超出0.01 wt %〞係指限用物質之百分比含量超出百分比含量基準值。

Note 1：“Exceeding 0.1 wt %” and “exceeding 0.01 wt %” indicate that the percentage content of the restricted substance exceeds the reference percentage value of presence condition.

備考2.〝○〞係指該項限用物質之百分比含量未超出百分比含量基準值。

Note 2：“○” indicates that the percentage content of the restricted substance does not exceed the percentage of reference value of presence.

備考3.〝—〞係指該項限用物質為排除項目。

Note 3：The “–” indicates that the restricted substance corresponds to the exemption.