# IDS-5042-WG/5042-IWG

## ❯❯ *Industrial 4-port secure serial to IEEE 802.11 b/g wireless device server*

### Features

- High Speed Air Connectivity: WLAN interface support up to 54Mbps link speed
- Operating Modes : Virtual Com, Serial Tunnel, TCP Server, TCP Client, UDP
- Redundant multiple host devices :
  5 host devices : Virtual COM, TCP Server, TCP Client mode
  4 IP ranges : UDP
- NAT Pass-Through : the user can manage IDS-5042-WG/IDS-5042-IWG through NAT router
- High Security Capability : SSL data encryption; secured management by HTTPS and SSH ; IP Access : IP White List ; wireless : WEP/WPA/WPA2/802.1X/TKIP
- Internet Communication : PPPoE authentication
- Update DNS Hostname : DDNS
- Dual redundant Ethernet port support redundant mode (Recovery time < 10ms)
- Ethernet switch mode enable Daisy Chain
- Event Warning by Syslog, Email, SNMP trap, Relay and Beeper
- Configurable by Web-based and Windows utility (DS-Tool)
- Various Windows O.S. supported :
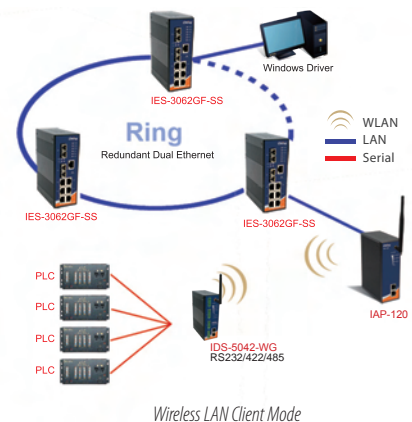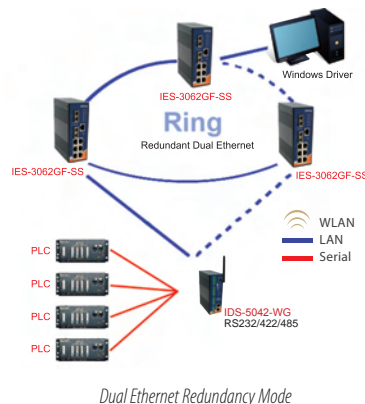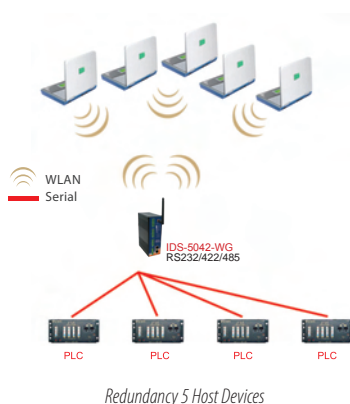  Windows NT/2000/ XP/ 2003/VISTA(32/64bit)/Windows7(32/64bit)
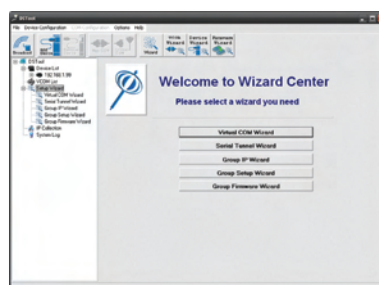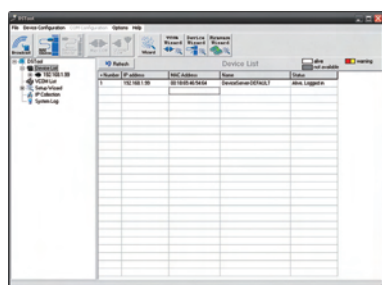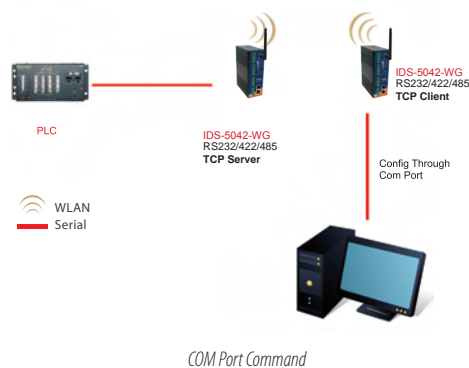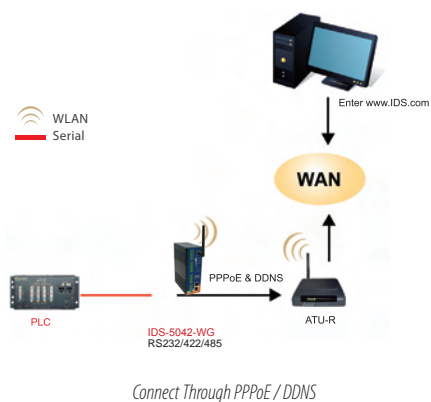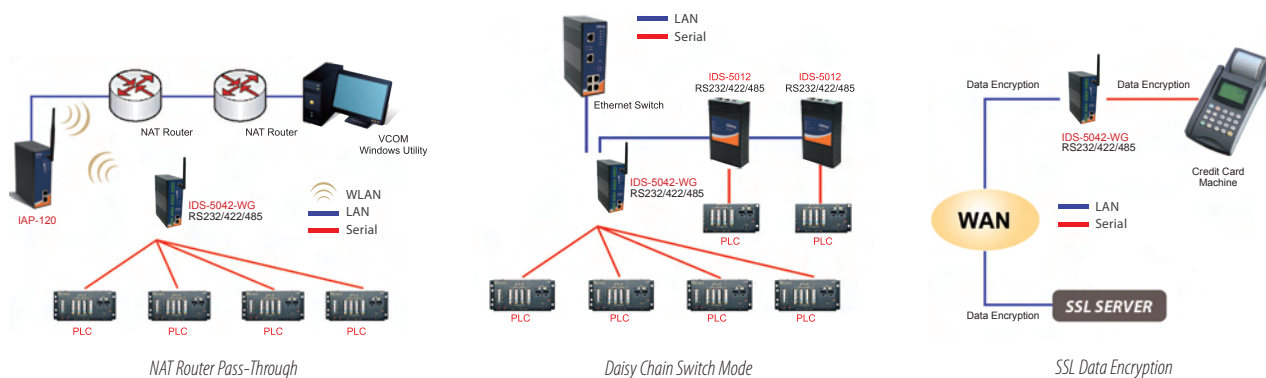
### Introduction

IDS-5042-WG is an innovative secure 4-port RS232/422/485 (IDS-5042-IWG is with 4-port RS-422/485 on 5-pin terminal block) to 802.11b/g WLAN, up to 54Mbps, and 2 port LAN device server featuring the standard features of device server, such like TCP/IP interface and versatile operation modes: Virtual Com, Serial Tunnel, TCP Server, TCP Client, UDP.  In addition, the Windows utility, DS-Tool, could configure multiple devices and set up the mappings of Virtual Com.  The features of NAT Router Pass-Through, DDNS, and PPPoE make it more convenient for administrators to configure ORing's device servers through NAT router from different IP domains or Internet via modem remotely.  On the other hand, IDS-5042-WG and IDS-5042-IWG can simultaneously transfer data up to 5 redundant host PCs to aovid Ethernet connection breakdown or any host PC fails.  Further, IDS-5042-WG and IDS-5042-IWG feature HTTPS, SSH, SSL encryption, and 802.1X to assure the security of critical data transmission.

IDS-5042-WG and IDS-5042-IWG provide dual redundant power inputs, 12~48 VDC, on terminal block to guarantee a non-stop operation.  With wide operating temperature, -10~60℃, and rugged IP-30 housing design, IDS-5042-WG and IDS-5042-IWG could operate in the harsh industrial environment.  Therefore, IDS-5011-WG is the best solution to the high demand of secure serial to WLAN critical data communication.

### Practical Operation

In practical operation of serial device servers, Windows utility (DS-Tool) is supported.  This utility is very helpful for you to manage and monitor all of industrial device servers in the industrial network.



*Redundancy 5 Host Devices*

*Dual Ethernet Redundancy Mode*

*Wireless LAN Client Mode*

Industrial Ethernet Switch

Industrial Media Converter

Industrial Device Server

Industrial Wireless Access Point

Industrial Cellular VPN Router

Industrial M2M Gateway

Accessories

Network Management Software

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**Industrial Device Server**



*NAT Router Pass-Through*

*Daisy Chain Switch Mode*

*SSL Data Encryption*



*Connect Through PPPoE / DDNS*

*COM Port Command*



*Monitoring and Configuration interface*

## Dimensions
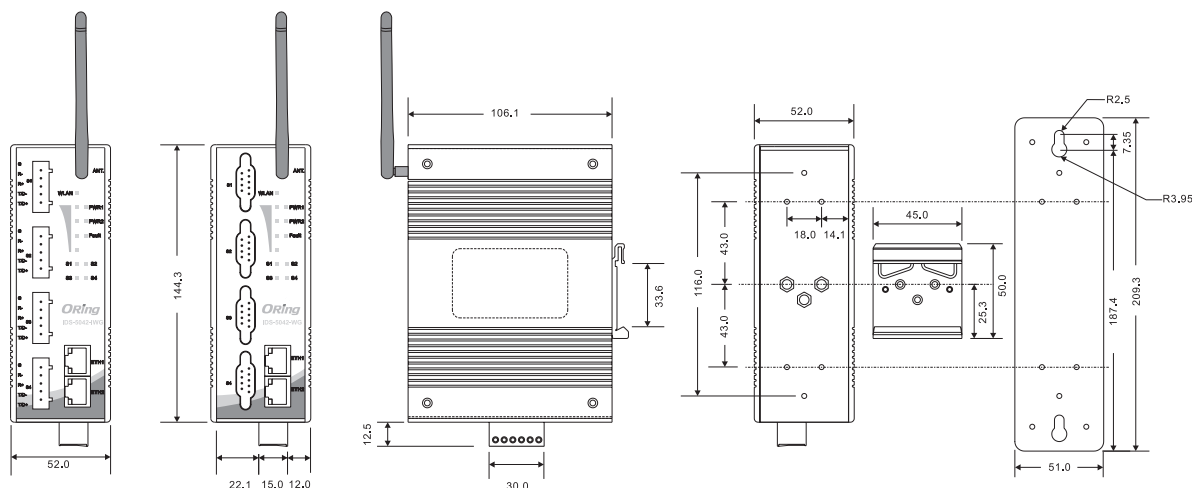


Unit=mm

## Pin Assignment



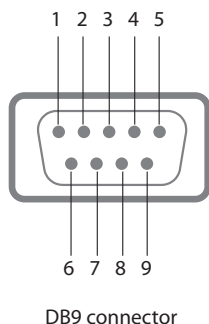| Pin # | RS-232 | RS-422 | RS-485 ( 4 wire ) | RS-485 ( 2 wire ) |
|---|---|---|---|---|
| 1 | DCD | RXD - | RXD - | - |
| 2 | RXD | RXD + | RXD + | - |
| 3 | TXD | TXD + | TXD + | DATA + |
| 4 | DTR | TXD - | TXD - | DATA - |
| 5 | GND | GND | GND | GND |
| 6 | DSR | - | - | - |
| 7 | RTS | - | - | - |
| 8 | CTS | - | - | - |
| 9 | RI | - | - | - |
| **RS-232 mode act as DTE** | | | | |

DB9 connector

**IDS-5042-WG Connector**

5-Pin Terminal block connector
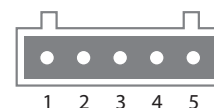
| Pin # | RS-422 | RS-485 ( 4 wire ) | RS-485 ( 2 wire ) |
|---|---|---|---|
| 1 | GND | GND | GND |
| 2 | RXD - | RXD - | - |
| 3 | RXD + | RXD + | - |
| 4 | TXD - | TXD - | DATA - |
| 5 | TXD + | TXD + | DATA + |

**IDS-5042-IWG Connector**

## Specifications

| ORing Device Server Model | IDS-5042-WG | IDS-5042-IWG |
|---|---|---|
| **Physical Ports** | | |
| 10/100Base-T(X) Ports in RJ45 Auto MDI/MDIX | 2 | |
| **WLAN Feature** | | |
| Operating Mode | Client mode | |
| Antenna and Connector | 2dBi antenna on reversed SMA connector | |
| Radio Frequency Type | DSSS, OFDM | |
| Modulation | IEEE802.11b : CCK, DQPSK, DBPSK<br>IEEE802.11g : OFDM with BPSK, QPSK, 16QAM, 64QAM | |
| Frequency Band | America/FCC : 2.412~2.462 GHz (11 channels)<br>Europe CE/ETSI : 2.412~2.472 GHz (13 channels) | |
| Transmission Rate | IEEE802.11b : 1/ 2/ 5.5/ 11 Mbps<br>IEEE802.11g : 6/ 9/ 12/ 18/ 24/ 36/ 48/ 54 Mbps | |
| Transmit Power | IEEE802.11b/g : 18dBm | |
| Receiver Sensitivity | -81dBm @ 11Mbps, PER< 8%; -64dBm @ 54Mbps, PER< 10% | |
| Encryption Security | WEP : (64-bit ,128-bit key supported)<br>WPA /WPA2 :  IEEE802.11i(WEP and AES encryption)<br>WPA-PSK (256-bit key pre-shared key supported)<br>TKIP encryption<br>802.1x Authentication supported | |
| **Serial Ports** | | |
| Connector | DB9(male) x 4 | 5-pin terminal block x 4 |
| Operation Mode | RS-232 / RS-422 / 4(2)-Wire RS-485.  Which can be configured by DS-Tool | RS-422 / 4(2)-Wire RS-485.  Which can be configured by DS-Tool |
| Serial Baud Rate | 110 bps to 460.8 Kbps | |
| Data Bits | 5, 6, 7, 8 | |
| Parity | odd, even, none, mark, space | |
| Stop Bits | 1, 1.5, 2 | |
| RS-232 | TxD, RxD, RTS, CTS, DTR, DSR, DCD, RI, GND | - |
| RS-422 | Tx+,Tx-, Rx+, Rx-,GND | |
| RS-485 (4-wire) | Tx+,Tx-, Rx+, Rx-,GND | |
| RS-485 (2-wire) | Data+, Data-,GND | |
| Isolation | - | 2 KV |
| Flow Control | XON/XOFF, RTS/CTS, DTR/DSR | XON/XOFF |
| **Network Features** | | |
| Network  Protocols | ICMP, IP, TCP, UDP, DHCP, BOOTP, SSH, DNS, SNMP V1/V2c, HTTPS, SMTP, SSL, PPPoE, DDNS | |

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| LED Indicators | |
|---|---|
| Power Indicator | PWR 1(2) / Ready :<br>    Red On : Power is on and booting up.<br>    Red Blinking : Indicates an IP conflict, or DHCP or BOOTP server did not respond properly.<br>    Green On : Power is on and functioning Normally.<br>    Green Blinking : Located by Administrator. |
| 10/100Base-T(X) RJ45 Port Indicator | Green for port Link/Act at 100Mbps.  Amber for port Link/Act at 10Mbps. |
| WLAN Indicator | WLAN Link /ACT : Green<br>WLAN Strength : 1<25%, 2<50%, 3<75%, 4<100% |
| Serial TX / RX LEDs | Red : Serial port is receiving data<br>Green : Serial port is transmitting data |

| Power | | |
|---|---|---|
| Redundant Input Power | Dual DC inputs. 12~48VDC on 6-pin terminal block | |
| Power Consumption (Typ.) | 6.5 Watts | 6.5 Watts |
| Overload Current protection | Present | |
| Reverse Polarity Protection | Present | |

| Physical Characteristics | | |
|---|---|---|
| Enclosure | IP-30 | |
| Dimensions (W x D x H) | 52(W) x 106.1(D) x 144.3(H) mm (2.05x4.18x5.68 inch.) | |
| Weight (g) | 691 g | 675 g |

| Environmental | |
|---|---|
| Storage Temperature | -40 to 85℃(-40 to 185℉) |
| Operating Temperature | -10 to 60℃ (14 to 140℉) |
| 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 | IEC60068-2-32 | |
| Vibration | IEC60068-2-6 | |
| Safety | EN60950-1 | |
| MTBF (Hours) (MIL-HDBK-217F2, GB, GC, 25℃) | 547,991 | 195,943 |
| Warranty | 3 years | |

## Ordering Information

**IDS-50 A B - C DD**

| Code Definition | Serial Port Number | Ethernet Port Number | Serial Port Identification | WLAN Interface |
|---|---|---|---|---|
| **Option** | **- 4:** 4 ports | **- 2:** 2 ports | **- I:** Serial port are isolated RS-422/485<br>**- "":** Serial port are non-isolated RS-232/422/485 | **- WG:** IEEE802.11 b/g mode |

| | Model Name | Description |
|---|---|---|
| Available Model | IDS-5042-WG | Industrial 4-port secure serial to IEEE 802.11 b/g wireless device server with 4xRS-232/422/485 and 2x10/100Base-T(X) |
| | IDS-5042-IWG | Industrial 4-port secure serial to IEEE 802.11 b/g wireless device server with 4xRS-422/485 (2KV isolation) and 2x10/100Base-T(X) |

**Packing List**
- IDS-5042-WG/5042-IWG
- DIN-Rail Kit
- Wall-mount Kit
- 2dBi Antenna
- ORing Tool CD
- Quick Installation Guide

**Optional Accessories** (Can be purchased separately)
- DR-45 series, 45W DIN-Rail power supply
- DR-75 series, 75W DIN-Rail power supply
- DR-120 series, 120W DIN-Rail power supply
- SDR-240-48, 240W DIN-Rail power supply
- SDR-480-48, 480W DIN-Rail power supply
- WLAN RF Antenna Series
- RF Antenna Base Series
- RF Surge Protector Series
- RF Cable Series

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