Industrial Device Server User's Manual

IDS-5011-WG



Version 1.0 May 2008.



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Getting to Know Your Device Server

1.1 About the IDS-5011-WG Serial Device Server



IDS-5011-WG is an innovative 1 port RS232/422/485 to 802.11b/g WLAN and 1 port LAN device server. Users are able to configure IDS-5011-WG by DS-Tool via LAN port or WLAN interface, but not simultaneously. Once LAN port is activated, WLAN interface will enter standby mode to minimize power consumption.

IDS-5011-WG can simultaneously transfer data into 5 host PCs. This feature can assure all critical data that saved in different host PCs to avoid Ethernet break or host PCs failure.

Thirdly, IDS-5011-WG provides dual redundant power inputs both on DC power jack and terminal block. IDS-5011-WG also provides NAT pass through function so that users are able to manage IDS-5011-WG inside

or outside NAT router. It is easy for different IP domain users to use the Switch. Therefore, IDS-5011-WG is the best communication solution for wireless application of serial devices.

1.2 Software Features

- High Speed Air Connectivity: WLAN interface support up to 54Mbps link speed
- Highly Security Capability: WEP/WPA/WPA2/802.1X/Radius/TKIP supported
- NAT-pass through: User can manage IDS-5011-WG through NAT router
- Redundant Power Inputs: 12~48VDC on power jack and terminal block
- Redundant multiple host devices: 5 simultaneous in Virtual COM, TCP Server, TCP Client mode, UDP
- Secured Management by HTTPS and SSH.



- Versatile Modes: Virtual Com, Serial Tunnel, TCP Server, TCP Client, UDP
- Event Warning by Syslog, Email, SNMP trap, and Beeper
- Various Windows O.S. supported: Windows NT/2000/ XP/ 2003/VISTA 32bits

1.3 Hardware Features

- Redundant Power Inputs: 12~48 VDC on terminal block and power jack
- Operating Temperature: -10 to 55°C
- Storage Temperature: -20 to 85 °C
- Operating Humidity: 5% to 95%, non-condensing
- Casing: IP-30
- 1 10/100Base-T(X) Ethernet port
- Reverse SMA connector for 2.4GHz antenna
- Dimensions(W x D x H) : 72mm(W)x125 mm(D)x31mm(H)



Hardware Installation

2.1 Install IDS-5011-WG on DIN-Rail

Each IDS-5011-WG has a Din-Rail kit on rear panel. The Din-Rail kit helps IDS-5011-WG to fix on the Din-Rail. It is easy to install the IDS-5011-WG on the Din-Rail:

2.1.1 Mount IDS-5011-WG on DIN-Rail

Step 1: Slant the IDS-5011-WG and mount the metal spring to Din-Rail.

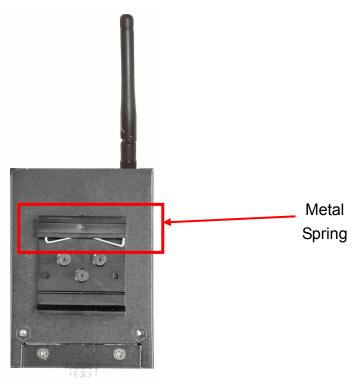


Figure 2-1





Step 2: Push the IDS-5011-WG toward the Din-Rail until you heard a "click" sound.

Figure 2-2

2.2 Wall Mounting Installation

Each IDS-5011-WG has another installation method for you. A wall mount panel can be found in the package. The following steps show how to mount the IDS-5011-WG on the wall:



2.2.1 Mount IDS-5011-WG on wall

Step 1: Remove Din-Rail kit.

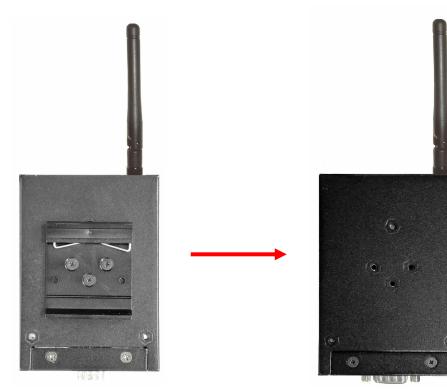


Figure 2-3





Step 2: Use 3 screws that can be found in the package to combine the wall mount panel. Just like the picture shows below:

Figure 2-4

The screws specification shows in the following two pictures. In order to prevent IDS-5011-WG from any damage, the size of screws should not be larger than the size that used in IDS-5011-WG.

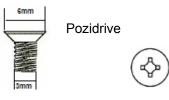


Figure 2-5



Step 3: Mount the combined IDS-5011-WG on the wall. .



Figure 2-6



Hardware Overview

3.1 Front Panel



Figure 3-1

- 1. Product description of IDS-5011-WG.
- 2. LED for PWR1 and system status. When the PWR1 links, the green led will be light on.
- 3. LED for PWR2 and system status. When the PWR2 links, the green led will be light on.
- 4. LED of 10/100Base-T(X) Ethernet port 1.
- 5. LED of 10/100Base-T(X) Ethernet port 2.
- 6. LED of serial port. Green for transmitting, red for receiving



3.2 Front Panel LEDS

The following table describes the labels that stick on the IDS-5011-WG.

| LED | Color | Status | Description |
|--------|-------------|-------------------|--|
| | | On | DC power 1 activated. |
| PWR1 | Green/Red | Red blinking | Indicates an IP conflict, or DHCP or BOOTP server did not respond properly |
| | Green/Red | On | DC power 2 activated. |
| PWR2 | Green/Red | Red blinking | Indicates an IP conflict, or DHCP or BOOTP server did not respond properly |
| ЕТН | Green/Amber | Green On/Blinking | 100Mbps LNK/ACT |
| 2111 | | Amber On/Blinking | 10Mbps LNK/ACT |
| WLAN | Green/Amber | Green On/Blinking | WLAN LNK/ACT Signal good |
| | | Amber On/Blinking | WLAN LNK/ACT Signal poor |
| Serial | Green | Blinking | Serial port is transmitting data |
| Genal | Red | Blinking | Serial port is receiving data |

Table 3-1 Front panel LEDs



3.3 Top Panel

The Top panel components of IDS-5011-WG are showed as below:

- 1. Terminal block include: PWR1 (12 ~ 48V DC)
- 2. Power Jack include: PWR2 (12 ~ 48V DC)
- 3. RJ45 Ethernet Connector: 2 10/100Base-T(X) Ethernet interface.
- 4. Reverse SMA connector for 2.4GHz antenna

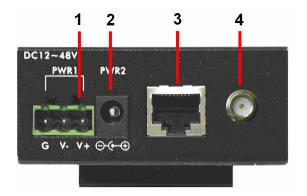


Figure 3-2

3.4 Bottom Panel

The bottom panel components of IDS-5011-WG are showed as below:

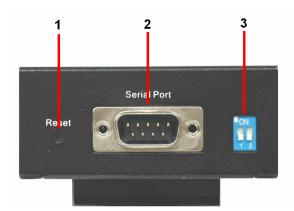
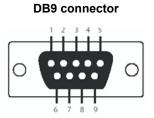


Figure 3-3



- 1. Reset bottom. 5 seconds for factory default.
- 2. Male DB9 connector: Serial interface of RS-232/422/485 (2 wire)(4 wire).



| 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 mod act as DTE | | | | |

Table 3-2 Pin assignment

3. DIP Switch: Termination for RS-422/485

| DIP 1 | DIP 2 | Termination Configuration | |
|-------|-------|--|--|
| ON | ON | Termination for long distance 4-wire RS485/422 | |
| ON | OFF | Reserved | |
| OFF | ON | Termination for long distance 2-wire RS485 | |
| OFF | OFF | No termination for RS485/ 422 (short distance) | |

Table 3-2 DIP Switch



3.5 Rear Panel

The rear panel components of IDS-5011-WG are showed as below:

- 1. Screw holes for wall mount kit and DIN-Rail kit.
- 2. Din-Rail kit
- 3. Wall Mount kit.

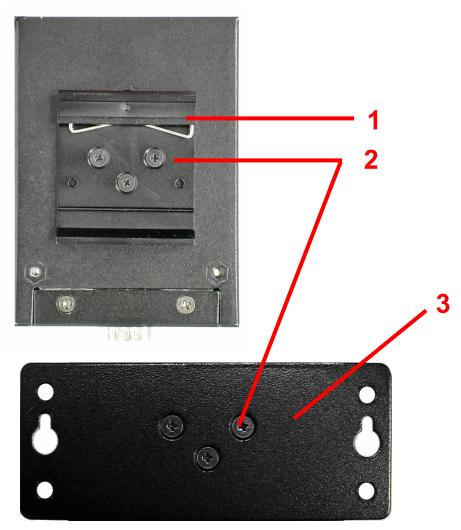


Figure 3-4 Rear Panel



Cables

4.1 Ethernet Cables

The IDS-5011-WG has standard Ethernet ports. According to the link type, the IDS-5011-WG use CAT 3, 4, 5,5e UTP cables to connect to any other network device (PCs, servers, switches, routers, or hubs). Please refer to the following table for cable specifications.

| Cable | Туре | Max. Length | Connector |
|-------------------------------|--------------------|--------------------|-----------|
| 10BASE-T Cat. 3, 4, 5 100-ohm | | UTP 100 m (328 ft) | RJ-45 |
| 100BASE-TX | Cat. 5 100-ohm UTP | UTP 100 m (328 ft) | RJ-45 |

Table 4-1 Cable Types and Specifications

100BASE-TX/10BASE-T Pin Assignments

With 100BASE-TX/10BASE-T cable, pins 1 and 2 are used for transmitting data, and pins 3 and 6 are used for receiving data.



| Pin Number | Assignment |
|------------|------------|
| 1 | TD+ |
| 2 | TD- |
| 3 | RD+ |
| 4 | Not used |
| 5 | Not used |
| 6 | RD- |
| 7 | Not used |
| 8 | Not used |

Table 4-2 RJ-45 Pin Assignments

The IDS-5011-WG supports auto MDI/MDI-X operation. You can use a straight- through cable to connect PC to IDS-5011-WG. The following table below shows the 10BASE-T/ 100BASE-TX MDI and MDI-X port pin outs.

| Pin Number | MDI port | MDI-X port |
|----------------|---------------|---------------|
| 1 | TD+(transmit) | RD+(receive) |
| 2 | TD-(transmit) | RD-(receive) |
| 3 | RD+(receive) | TD+(transmit) |
| 4 | Not used | Not used |
| 5 | Not used | Not used |
| 6 RD-(receive) | | TD-(transmit) |
| 7 | Not used | Not used |
| 8 Not used | | Not used |

Table 4-2 MDI / MDI-X pins assignment

Note: "+" and "-" signs represent the polarity of the wires that make up each wire pair.



Management Interface

5.1 DS-Tool

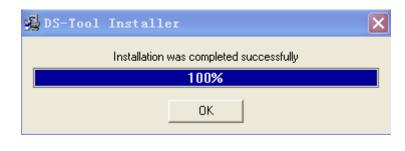
DS-Tool is a powerful Windows utility for DS series. It supports device discovery, device configuration, group setup, group firmware update, monitoring functions...etc. It is easy for you to install and configure devices over the network.

5.1.1 Install IDS-Tool

Step 1: Execute the Setup program, click "start" after selecting the folder for DS-Tool.

| 월 DS-Tool Instal | ller | | | X |
|------------------|--|-------|----------------|---|
| ORing | Destination Directory C:\Program Files\DS-Tool Required: 7543 K Available: 210228 K | | <u>B</u> rowse | |
| | | Start | <u>E</u> xit | |

Figure 5-1



Step 2: When installation complete successfully, then click "OK".

Figure 5-2

Step 3: Check for your selection.



Figure 5-3



5.1.2 Using DS-Tool

5.1.2.1 Explore device servers

DS-Tool will broadcast to the network and search all available DS devices in the network. The default IP address of device is "**192.168.10.2**", and selects the searching device you wish to use and press "**Add**" button.

You can set static IP address or in DHCP client mode to get IP address automatically. Finally, click "**OK** "button to add the device.

| 🚱 DS-Tool | | | | | | |
|----------------------------------|----------------|---------------|----------|--|--|---|
| File Device Configuration COM Co | nfiguration Op | tions Help | | | | |
| | Broadc | ast Searching | BICCIDD | Original IP 192.11 Using Static IP Assign Static IP IP Address 192. Netmask 255. | xBB:CC:DD:77 68.10.2 Using DHCP 168.10.2 255.255.0 168.10.2 | |
| | | | | Password | uto Scan | |
| | | | | Cancel | OK | _ |
| | | | | | | |
| | | Cancel C | lear All | Select All | Add | |
| | <u> </u> | | | o be re-config :e. Group IP W | | |

Figure 5-4



5.1.2.2 Configure device servers

General settings

This page includes the setting of device name, SNTP server and Auto IP Report.

| General Security Networking | Wireless | Notification Mana | gement Upgrade Firm | ware Save/Load |
|--|--------------|----------------------------|-----------------------|----------------------------------|
| Model Industrial 1-port RS232/422 | /485 to 802. | 11 b/g WLAN Devic | e Server | Power |
| LAN IP Address 192.168.0.41 | | C Address 56:04:02:07 | Version 1.05j | Networking 1 🔜 w 🚥 |
| WLAN IP Address Disabled | | 1AC Address 00:00:00:00 | | 🕘 Locate On |
| Device Name/Location DeviceServer-DEFAULT | | | | |
| Using SNTP Time Server | | Auto IP Report | | |
| pool.ntp.org | Port 123 | IP Address 192.168.0.35 | Port 60001 | |
| Time Zone (GMT+08:00)Taipei | • | Get Cu Report Interval | rrent Host Seconds | |
| | | | | |
| | | | | |
| | | | | |
| S Refresh | | | | 🔄 🌛 Apply Only 🛛 🌧 Apply and Sav |

Figure 5-5 General settings

The following table describes the labels in this screen.

| Label | Description |
|----------------------|---|
| Device Name/location | You can set the device name or related information. By clicking "Locate On" button you can locate the serial server's position. |
| Set SNTP | Input the SNTP server domain name or IP address, port and select the Time zone. |



| Set Auto ID Deport | By Clicking the "Get current Host" button you will get your local IP, and then set the |
|--------------------|--|
| Set Auto IP Report | Report interval time. The device server will report its status periodically. |

Table 5-1 General settings

At IP collection option show the device server status. The report interval is 0 indicate disable this setting (default). But you can set the other IP or Port.

| Securit | y |
|---------|---|
|---------|---|

| General Security Net | tworking Notification M | anagement Upgrade Firmware Save/Load | |
|----------------------|-------------------------|--|------|
| Access IP Table | | Password | |
| IP1 192.168.0.1 | Mask 255.255.255.25 | Enabled New Password | |
| IP2 192.168.0.2 | Mask 255.255.255.0 | . I Enabled | |
| IP3 | Mask 0.0.0.0 | Enabled Confirm New Password | |
| IP4 | Mask 0.0.0.0 | Enabled Old Password | |
| IP5 | Mask 0.0.0.0 | Enabled | |
| IP6 | Mask 0.0.0.0 | Enabled Characteristic | |
| IP7 | Mask 0.0.0.0 | Enabled Change Password | |
| IP8 | Mask 0.0.0.0 | Enabled | |
| IP9 | Mask 0.0.0.0 | F Enabled | |
| IP10 | Mask 0.0.0.0 | Enabled | |
| IP11 | Mask 0.0.0.0 | Enabled | |
| IP12 | Mask 0.0.0.0 | Enabled | |
| IP13 | Mask 0.0.0.0 | Enabled | |
| IP14 | Mask 0.0.0.0 | Enabled | |
| IP15 | Mask 0.0.0.0 | Enabled | |
| IP16 | Mask 0.0.0.0 | Enabled | |
| | | | |
| S Refresh | | 🌛 Apply Only 🏾 🌛 Apply and | Save |

Figure 5-6 Security

The following table describes the labels in this screen.

| Label | Description |
|-----------------------|---|
| Accessible IP Setting | To prevent unauthorized access by setting host IP addresses and network masks. |
| Decoward actting | You can set the password to prevent unauthorized access from your server. Factory |
| Password setting | default is no password. |

Table 5-2 Security



Network Setting

Device can connect the Network by wire and wireless. You must assign a valid IP address for DS before attached in your network environment. Your network administrator should provide you the IP address and related settings. The IP address must be unique within the network (otherwise, DS will not have a valid connection to the network). You can choose from three possible "**IP configuration**" modes: Static, DHCP/BOOTP. The Factory Default IP address is "**192.168.10.2**"

| General Security Wire Wireless | Networking Wireless | Notification | Management | Upgrade Firmware | Save/Load | |
|-----------------------------------|---------------------|--------------|------------|------------------|--------------|----------------|
| | ' IP | IOTP | | | | |
| Static IP Setting | \$ | | | | | |
| IP Address | 192.168.10.2 | | | | | |
| Netmask | 255.255.255.0 | | | | | |
| Gatway | 192.168.10.1 | | | | | |
| DNS1 | 192.168.10.1 | | | | | |
| DNS2 | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| S Refresh | | | | | 🌛 Apply Only | Apply and Save |

Figure 5-7 Network Setting



| Label | Description |
|-------------------|---|
| Using DHCP/BOOTP | IP Address automatically assigned by a DHCP server in your network. |
| Static IP Address | Manually assigning an IP address. |
| Subnet Mask | All devices on the network must have the same subnet mask to communicate on the network. |
| Gateway | Enter the IP address of the router in you network. |
| DNS Server | Enter the IP address of the DNS server, The DNS server translates domain names into IP address. |
| Switch Mode | Redundant: When the connection between master-link and LAN fails, the DS can automatically switch to another LAN port within10mS, and still guarantees a non-stop connection Switch: Daisy Chain support to reduce usage of switch ports. |

The following table describes the labels in this screen.

Table 5-3 Network setting

Wireless setting

Wireless Network type includes two modes: INFRA and ADHOC. The INFRA type connects the network by wireless access point, but the ADHOC is formed by the association of wireless and mobile devices capable of communicating among themselves even when there is no networking INFRA structure available.



| Network Ty SSI | ecurity Networking Wireless Notification Management Upgrade Firmware Save/Load |
|---------------------------------|---|
| Wireless En O No En O WEP | |
| | WEP Encryption Key Character Input : 5 characters(WEP64) C 1 research C 2 C 4 |
| C TKIP | WPA-PSK (Previously Shared Key) Key Renewal Period : minutes |
| Sefres | sh Apply Only Apply and Save |

Figure 5-8 Wireless Network Setting

| Label | Description | |
|---------------|--|--|
| Network Type | Type includes INFRA and ADHOC. | |
| | Service Set Identifier Default is the default setting. The SSID is a unique name that | |
| SSID | identifies a network. All devices on a network must share the same SSID name in order to | |
| | communicate on the network. | |
| Channel | All devices on the network must be set to the same channel to communicate on the network. | |
| Channel | You can select the Auto. | |
| NO Encryption | You can set no encryption mode, but this mode is insecurity and don't suggest use. | |
| | VEP You can set four encryption 5characters (WEP64), 13 characters (WEP128), 10 digits (WEP64), 26digits (WEP128). | |
| VVEP | | |
| ТКІР | TKIP (Temporal Key Integrity Protocol) is a key management protocol. | |
| 450 | AES (Advanced Encryption System) is a variable bit length symmetric digital encryption | |
| AES | algorithm. | |

The following table describes the labels in this screen.

Table 5-3 Wireless Network setting

*Simply unplug the RJ-45 to change into wireless connection



Notification

Specify the events that should be notified to the administrator. The events can be alarmed by E-mail, SNMP trap, or system log.

| General Security Networking | Notification | Management Upg | rade Firmware Save/Lo | ad |
|---|---|--|-------------------------|----------------|
| SNMP Trap | Email Notifica | ition 🔽 Sys | log Notification | |
| Syslog Setttings Notified Items Hardware Reset (Cold Star Software Reset (Warm Star Login Failed IP Changed Password Changed Access IP Blocked | rt) ☐ Red ☐ DI_1 ☐ DI_2 ☐ DI_2 | lundant Power Changi lundant Ethemet Char 1 Changed 2 Changed 3 Changed 4 Changed | | |
| System Log Settings Server IP 192.168.0.2 | Port 514 | Using Current H | lost's Log Server | |
| | | | | |
| 🍤 Refresh | | | 🜛 Apply Only | Apply and Save |

Figure 5-9 Notification

The following table describes the labels in this screen.

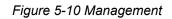
| Label | Description |
|---------------------|---------------------------------|
| SNMP Trap | To notify events by SNMP trap. |
| Email Notification | To notify events by Email. |
| Syslog Notification | To notify events by Syslog. |
| Notify items | Events to be notified. |
| Apply | Apply current setting. |
| Apply and Save | Apply and save current setting. |

Table 5-4 Notification



Management

| General Security Networking Noti | hcation Management Upgrade Firmware |
|--|-------------------------------------|
| 🔽 Web Management Enable | Goto Web Management |
| 🔽 Telnet Management Enable | Goto Telnet Management |
| 🔽 SNMP Management Enable | |
| SNMP Management Settings | |
| Community | |
| Location | |
| Contact | |
| Trap Server1 | |
| Trap Server2 | |
| Trap Server3 | |
| Trap Server4 | |
| L | |



The following table describes the labels in this screen.

| Label | Description | | |
|--------------------------|--|--|--|
| Web Management Enable | To enable management from Web. Click "Goto Web Management" button to | | |
| Web Management Enable | access web. | | |
| Tolact Management Enable | To enable management by Telnet. Click "Goto Telnet Management" button to | | |
| Telnet Management Enable | execute Telnet command. | | |
| SNMP Management Enable | To enable management by SNMP. | | |
| SNMP Management Settings | To configure SNMP related settings. | | |

Table 554 Management



Upgrade Firmware

| General 🛛 Security | Networking | Notification | Management | Upgrade Firmware | Save/Load |
|--------------------|------------|--------------|------------|------------------|-----------|
| Firmware Image | | | | | |
| | | | | Browsing | Upgrade |
| | | | | | |

Figure 5-11 Upgrade Firmware

The following table describes the labels in this screen.

| Label | Description | |
|----------|------------------------------|--|
| Browsing | Browse the file and upgrade | |
| Upgrade | Enable the firmware upgrade. | |

Table 5-6 Upgrade Firmware

Save/Load

ieneral | Security | Networking | Notification | Management | Upgrade Firmware | Save/Load |

| Save Configuration to Flash |
|-----------------------------|
| C Apply and Save |
| Load Default |
| Coad Default |
| Reboot Device |
| O Reboot Device |
| Import/Export Configuration |
| Import Export |

Figure 5-12 Save / Load

The following table describes the labels in this screen.

| Label | Description | |
|-----------------------|---|--|
| Save Configuration to | Save current configuration into flash memory. | |
| Flash | | |



| Load Default | Load default configuration except the network settings. If you want to load all factory default, you need to press " Reset " button on the device (Hardware restore). | |
|----------------------|--|--|
| Reboot Device | Reboot the device server (warm start). | |
| Import Configuration | Restore the previous exported configuration. | |
| Export Configuration | Exported current configuration to a file to backup the configuration. | |

Table 5-7 Save / Load

5.1.2.3 Configure serial port

Serial Settings

| Serial Settings Service Mode Notification | | | |
|--|--|--|--|
| port1 | | | |
| Port Alias Port0 | | | |
| | | | |
| Baudrate 38400 Stop Bits 1 Performance Throughput | | | |
| Parity No Flow Control No Flow | | | |
| Data Bits 8 Interface RS232 | | | |
| Delimiter Settings | | | |
| Serial to Ethernet Ethernet to Serial | | | |
| Delimiter 1 Delimiter 2 Delimiter 3 Delimiter 4 Image: Image | | | |
| O (0-65535)ms data 1 interval time data 2 interval time data 3 The received data will be queueing in TX buffer until TX interval time is timeout or TX buffer is full (4K Bytes) , the data will also be sent. 0 is disable. | | | |
| Sefresh Save | | | |

Figure 5-13 Serial Settings



| Label | Description | |
|--------------------|---|--|
| Port Alias | Remark the port to hint the connected device. | |
| Interface | RS232 / RS422 / RS485(2-wires) / RS485(4-wires) | |
| David rate | 110bps/300bps/1200bps/2400bps/4800bps/9600bps/19200bps/ | |
| Baud rate | 38400bps/57600bps/115200bps/230400bps/460800bps | |
| Data Bits | 5, 6, 7, 8 | |
| Stop Bits | 1, 2 (1.5) | |
| Parity | No, Even, Odd, Mark, Space | |
| Flow Control | No, XON/XOFF, RTS/CTS, DTR/DSR | |
| Derfermense | Throughput: This mode optimized for highest transmission speed. | |
| Performance | Latency: This mode optimized for shortest response time. | |
| | Delimiter: | |
| | You can define max. 4 delimiters (00~FF, Hex) for each way. The data will be | |
| | hold until the delimiters are received or the option="Flush Serial to Ethernet data | |
| | buffer " times out. 0 means disable. Factory default is 0. | |
| Serial to Ethernet | | |
| | Flush Data Buffer After: | |
| | The received data will be queuing in the buffer until all the delimiters are matched. | |
| | When the buffer is full (4K Bytes) or after "flush S2E data buffer" timeout the data will | |
| | also be sent. You can set the time from 0 to 65535 seconds. | |
| | Delimiter: | |
| | You can define max. 4 delimiters (00~FF, Hex) for each way. The data will be | |
| | hold until the delimiters are received or the option "Flush Ethernet to Serial data | |
| | buffer " times out. 0 means disable. Factory default is 0. | |
| Ethernet to Serial | | |
| | Flush Data Buffer After: | |
| | The received data will be queuing in the buffer until all the delimiters are | |
| | matched. When the buffer is full (4K Bytes) or after "flushE2S data buffer" | |
| | timeout the data will also be sent. You can set the time from 0 to 65535 seconds. | |

The following table describes the labels in this screen.



| | Force TX interval time is to specify the timeout when no data has been transmitted. | | |
|------------------------|---|--|--|
| Force TX Interval Time | When the timeout is reached or TX buffer is full (4K Bytes), the queued data will be sent | | |
| | 0 means disable. Factory default value is 0. | | |

Table 5-8 Serial settings

Service Mode – Virtual COM Mode

In Virtual COM Mode, The driver establishes a transparent connection between host and serial device by mapping the Port of the serial server serial port to local COM port on the host computer. Virtual COM Mode also supports up to 5 simultaneous connections, so that multiple hosts can send or receive data by the same serial device at the same time.

| Serial Settings Service Mode Notification | |
|---|---|
| port1 Service Mode Virtual COM Mode 💌 | |
| Virtual COM Mode | |
| Virtual COM Settings Data Port# 4004 Edit IP Port Number Idle Timeout | (0-65535) Seconds |
| Control Port# 4005 Alive Check 0 | (0-65535) Seconds |
| Multilink | |
| Max Connections | Select a Virtual COM Name |
| 5 | VCOM1 |
| Destination Host VCOM Name | (Validated charaters of virtual COM name is A-Z, a-z and 0-9. Max Length of the name |
| Waiting for VCOM connect 🚖 Goto VCom | is 128 charaters) Using Traditional COM Name |
| Waiting for VCOM connect Goto VCom | COM3 COM4 COM5 |
| Waiting for VCOM connect Goto VCom | CDM6 CDM7 CDM8 CDM9 |
| Waiting for VCOM connect Goto VCom | COM9 COM10 COM11 COM12 |
| Waiting for VCOM connect 📥 Goto VCom | COM13 |
| | Cancel OK |

Figure 5-14 Virtual COM



| Label | Description |
|-----------------|--|
| Map Virtual COM | Select a Virtual COM Name to map on. |
| May Connection | The number of Max connection can support simultaneous connections are 5, default |
| Max Connection | values is 1. |
| | When serial port stops data transmission for a defined period of time (Idle Timeout), the |
| Idle Timeout | connection will be closed and the port will be freed and try to connect with other hosts. 0 |
| | indicate disable this function. Factory default value is 0. If Multilink is configured, only |
| | the first host connection is effective for this setting. |
| | The serial device will send TCP alive-check package in each defined time interval (Alive |
| Alive Check | Check) to remote host to check the TCP connection. If the TCP connection is not alive, |
| | the connection will be closed and the port will be freed. 0 indicate disable this function. |
| | Factory default is 0. |

The following table describes the labels in this screen.

Table 5-9 Virtual COM

*Not allowed to mapping Virtual COM from web

Service Mode – TCP Server Mode

In TCP Server Mode, DS is configured with a unique Port combination on a TCP/IP network. In this case, DS waits passively to be contacted by the device. After a connection is established, it can then proceed with data transmission. TCP Server mode also supports up to 5 simultaneous connections, so that multiple device can receive data from the same serial device at the same time.



| erial Settings Service Mode Notification bort1 Service Mode TCP Server Mode - |
|--|
| TCP Server Mode |
| Misc. Data Port 4002 Control Port 4003 Multilink Misc. |
| Max Connections 1 Image: Second sec |
| Disconnect |
| 2 Disconnect |
| 3 Disconnect |
| Disconnect |
| Sefresh Apply Only |

Figure 5-15 TCP Server mode

| The following table describes the la | bels in this screen. |
|--------------------------------------|----------------------|
| | |

| Label | Description |
|----------------|---|
| Data Port | Set the port number for data transmission. |
| Auto Scan | Scan the data port automatically. |
| Idle Timeout | When serial port stops data transmission for a defined period of time (Idle Timeout), the |
| | connection will be closed and the port will be freed and try to connect with other hosts. |
| | 0 indicate disable this function. Factory default value is 0. If Multilink is configured, |
| | only the first host connection is effective for this setting. |
| Alive Check | The serial device will send TCP alive-check package in each defined time interval (Alive |
| | Check) to remote host to check the TCP connection. If the TCP connection is not |
| | alive, the connection will be closed and the port will be freed. 0 indicate disable this |
| | function. Factory default is 0. |
| Max Connection | The number of Max connection can support simultaneous connections are 5, default |
| | values is 1. |

Table 5-10 TCP Server mode



Service Mode – TCP Client Mode

In TCP Client Mode, device can establish a TCP connection with server by the method you have settled (Startup or any character). After the data has been transferred, device can disconnect automatically from the server by using the TCP alive check time or Idle time settings.

| Serial Settings Service Mode Notification | |
|--|--|
| port1 Service Mode TCP Client Mode | |
| TCP Client Mode | |
| TCP Client Settings Destination Host Port 192.168.0.10 [4002] Image: Control Port 4003 | Misc. Idle Timeout 0 (0-65535) Seconds Alive Check 0 (0-65535) Seconds Connect on Startup |
| Multilink | |
| Destination Host Port | <u>,</u> |
| 2 eQ. Auto Scar | 1 |
| 3 Auto Scar | 1 |
| 4 Auto Scar | 1 |

Figure 5-16 TCP Client mode

The following table describes the labels in this screen.

| Label | Description |
|------------------|-----------------------------------|
| Destination Host | Set the IP address of host. |
| Port | Set the port number of data port. |



| Idle Timeout | When serial port stops data transmission for a defined period of time (Idle |
|--------------------|---|
| | Timeout), the connection will be closed and the port will be freed and try to |
| | connect with other hosts. 0 indicate disable this function. Factory default |
| | value is 0. If Multilink is configured, only the first host connection is effective |
| | for this setting. |
| Alive Check | The serial device will send TCP alive-check package in each defined time |
| | interval (Alive Check) to remote host to check the TCP connection. If the TCP |
| | connection is not alive, the connection will be closed and the port will be freed. |
| | 0 indicate disable this function. Factory default is 0. |
| Connect on Startup | The TCP Client will build TCP connection once the connected serial device is |
| | started. |
| Connect on Any | The TCP Client will build TCP connection once the connected serial device |
| Character | starts to send data. |

Table 5-11 TCP Client mode

Service Mode – UDP Mode

Compared to TCP communication, UDP is faster and more efficient. In UDP mode, you can Uni-cast or Multi-cast data from the serial device server to host computers, and the serial device can also receive data from one or multiple host



| Serial Settings Service Mode | Notification | | |
|--|----------------------|-------------------|--|
| Service Mode UDP Mod | e 💌 | | |
| UDP Mode | | | |
| UDP Settings Listening Port 4004 | 9. Auto Scan | | |
| | Destination Host End | Courding Deat | |
| Destination Host Begin | | Sending Port | |
| 192.168.0.1 | to 192.168.0.100 | 10000 🗠 Auto Scan | |
| 2 | to | Auto Scan | |
| 3 | to | Auto Scan | |
| 4 | to | 📃 🕰 Auto Scan | |
| | | | |

Figure 5-17 UDP mode

Notification

Specify the events that should be noticed. The events can be noticed by E-mail, SNMP trap or system log.



| Serial Settings Service Mode Notif | ication | | |
|---------------------------------------|--------------------------|-----------------|----------------|
| 🔽 SNMP Trap 🔽 Em | nail Notification 🔽 Syst | og Notification | |
| SNMP Settings Email Settings Sy | slog Settings | | |
| Notified Items | CTS Changed | | |
| DSR Changed | Port Connected | | |
| 🔲 RI Changed | Port Disconnected | | |
| ⊤Email to Mail Server: Mail to: | | | |
| | | | |
| | | | |
| 9 Refresh | | 🌛 Apply Only | Apply and Save |

Figure 5-18 Notification

| The following table describes the labels in this screen. |
|--|
|--|

| Label | Description |
|----------------|--|
| DCD changed | When DCD (Data Carrier Detect) signal changes, it indicates that the modem |
| DCD changed | connection status has changed. Notification will be sent. |
| DSP abangod | When DSR (Data Set Ready) signal changes, it indicates that the data communication |
| DSR changed | equipment is powered off. A Notification will be sent. |
| RI changed | When RI (Ring Indicator) signal changes, it indicates that the incoming of a call. A |
| | Notification will be sent. |
| CTS changed | When CTS (Clear To Send) signal changes, it indicates that the transmission between |
| | computer and DCE can proceed. A notification will be sent. |
| | In TCP Server Mode, when the device accepts an incoming TCP connection, this event |
| Port connected | will be trigger. In TCP Client Mode, when the device has connected to the remote host, |
| | this event will be trigger. In Virtual COM Mode, Virtual COM is ready to use. A |
| | notification will be sent. |



| | In TCP Server/Client Mode, when the device lost the TCP link, this event will be trigger. |
|-------------------|---|
| Port disconnected | In Virtual COM Mode, When Virtual COM is not available, this event will be trigger. A |
| | notification will be sent. |

Table 5-12 Notification

5.2 Configuration by Web Browser

5.2.1 CONNECT TO THE WEB PAGE

Step 1: Input the IP address of DS with "https://192.168.10.2" in the Address input box of IE.



Step 2: Click "Yes" button on the dialog box.

Figure 5-19 Certificate



Step 3: Input the name and password, then click "OK".

Figure 5-20 Certificate

*Only if password is set.

Step 4: The system information will be shown as below.

| Industrial Device Server | | | | |
|---|--------|------------------|-------------------|--|
| open all Serial Device Server System Port Serial Setting Management | System | n Information | | |
| 📓 Save/Reboot 📓 Help | I | P Address | 192.168.10.2 | |
| | N | MAC Address | 00:00:56:04:02:07 | |
| | F | Firmware Version | 1.00 | |
| | | | | |

Figure 5-21 System information

5.2.1.1 System

Time (SNTP)

| Industrial Device Server | | | | |
|--|---------|-----------------|---------------------------|--|
| System Time(SNTP) IP Configuration | SNT | P Configuration | | |
| User Authentication Port Serial Setting | | Name | DeviceServer-DEFAULT | |
| Management Save/Reboot | | Time | | |
| Help | | SNTP | © Enable O Disable | |
| | | Time Zone | (GMT+08:00)Taipei | |
| | | Local Time | Thu Jan 1 08:08:31 1970 | |
| | | Time Server | pool.ntp.org Port 123 | |
| | Console | | | |
| | | Telnet Console | ● Enable ○ Disable | |
| | | Apply | | |
| | | | | |

Figure 5-22 Time (SNTP)

| et the name of DS. |
|---|
| |
| e SNTP server. |
| set the SNTP enable, select the time zone you located. |
| P server domain name or IP address and Port. |
| nsole (SSH) is included for security reasons. In some cases, you may need |
| this function to prevent unauthorized access from internet. The factory enable. |
| |

The following table describes the labels in this screen.

Table 5-13 Time (SNTP)



IP Configuration

You must assign a valid IP address for DS before attached in your network environment. Your network administrator should provide you with the IP address and related settings. The IP address must be unique and within the network (otherwise, DS will not have a valid connection to the network). You can choose from three possible "**IP configuration**" modes: Static, DHCP/BOOTP. The Factory Default IP address is "**192.168.10.2**"

| Industrial Device Server | | | | |
|---|-------|-------------------------|---------------|--|
| open all S Serial Device Server System Time(SNTP) P Configuration | IP Co | nfiguration | | |
| User Authentication Port Serial Setting | | IP Configuration | Static 💌 | |
| Management Save/Reboot Help | | IP Address | 192.168.10.2 | |
| 🖼 нер | | Netmask | 255.255.255.0 | |
| | | Gateway | 192.168.10.1 | |
| | | DNS Server 1 | 192.168.10.1 | |
| | | DNS Server 2 | | |
| | | Auto IP Report | | |
| | | Auto Report to IP | | |
| | | Auto Report to TCP Port | 0 | |
| | | Auto Report Interval | 0_seconds | |
| | | Ethernet Mode | | |
| | | Ethernet Mode | | |
| | | Apply | | |

Figure 5-23 IP configuration



| Label | Description |
|-------------------|--|
| DHCP/BOOTP | Obtain the IP address automatically from DHCP server. |
| Static IP Address | Assigning an IP address manually. |
| Subnet Mask | Set the subnet mask to communicate on the network. |
| Gateway | Enter the IP address of the router in you network. |
| DNS Server | Enter the IP address of the DNS server to translate domain names into IP address. |
| Auto IP Report | The device server will report its status periodically. At DS-Tool->IP collection option show the device server status. The report interval is 0 indicate disable this setting (default). But you can set the other IP or Port. |

Table 5-14 IP configuration

Wireless configuration

Wireless Network include two mode: INFRA and ADHOC. The INFRA type connect the network by wireless access point, but the ADHOC is formed by the association of wireless and mobile devices capable of communicating among themselves even if there is no networking INFRA structure available.



| | Istrial Device Server |
|--|--|
| open all Serial Device Server System Since(SNTP) By IP Configuration | Wireless Configuration |
| Wireless Configuration User Authentication Port Serial Setting Management | Network Type Adhoc V SSID SSID Scan |
| 🖹 Save/Reboot 📔 Help | channel Auto Wireless Encryption |
| | No Encryption WEP |
| | WEP Encryption Key Character Input : 13 characters(WEP128) v (*) 1: |
| | 2: 3: |
| | О 4: О ТКІР |
| | |
| | WPA-PSK (Previously Shared Key): |
| | Key Renewal Period : minutes |
| | Apply |

Figure 5-24 Wireless configurations

| Label | Description | | |
|---------------|---|--|--|
| Network Type | Type includes INFRA and ADHOC. | | |
| | Service Set Identifier Default is the default setting. The SSID is a unique name that | | |
| SSID | identifies a network. All devices on a network must share the same SSID name in order to | | |
| | communicate on the network. | | |
| Channel | All devices on the network must be set to the same channel to communicate on the network. | | |
| Channer | You can select the Auto. | | |
| NO Encryption | You can set no encryption mode, but this mode is insecurity and don't suggest use. | | |
| WEP | You can set four encryption 5characters (WEP64), 13 characters (WEP128), 10 digits | | |
| VVEF | (WEP64), 26digits (WEP128). | | |
| ТКІР | TKIP (Temporal Key Integrity Protocol) is a key management protocol. | | |



| AES | AES (Advanced Encryption System) is a variable bit length symmetric digital encryption |
|-----|--|
| AES | algorithm. |

Table 5-14 Wireless Network setting

*Simply unplug the RJ-45 to change into wireless connection

Authentication

You can set the password to prevent unauthorized access from network. Input the "Old password" and "New password" to change the password. Factory default is no password.

| Industrial Device Server | | | |
|--|---|--|--|
| open all Serial Device Server System Time(SNTP) Serial Setting Output Serial Setting Management Save/Reboot Help | User Authentication Old Password | | |
| | | | |

Figure 5-25 Authentication



5.2.1.2 Port serial setting

Serial configuration ORing **Industrial Device Server** open all Serial Device Server Ser Serial Configuration User Authentication Ort Serial Setting Serial Configuration Port Profile Port1 💌 Port Alias Port1 Service Mode * Interface RS232 ▲ Management Save/Reboot Help Baud Rate 38400 🔽 Data Bits 8 🗸 Stop Bits ~ 1 Parity None 🔽 Flow Control None * Force TX Interval Time 0 ms Performance ⊙ Throughput ○ Latency Apply

Figure 5-26 Serial configuration

| Label | Description | | |
|------------|--|--|--|
| Port Alias | Remark the port to hint the connected device. | | |
| Interface | RS232 / RS422 / RS485(2-wires) / RS485(4-wires) | | |
| Baud rate | 110bps/300bps/1200bps/2400bps/4800bps/9600bps/19200bps/ 38400bps/57600bps/115200bps/230400bps/460800bps | | |
| Data Bits | 5, 6, 7, 8 | | |
| Stop Bits | 1, 2 (1.5) | | |



| Parity | No, Even, Odd, Mark, Space |
|------------------------|---|
| Flow Control | No, XON/XOFF, RTS/CTS, DTR/DSR |
| Force TX Interval Time | Force TX interval time is to specify the timeout when no data has been transmitted. When the timeout is reached or TX buffer is full (4K Bytes), the queued data will be sent. 0 means disable. Factory default value is 0. |
| Performance | Throughput: This mode optimized for highest transmission speed. Latency: This mode optimized for shortest response time. |
| Apply | Activate settings on this page. |

Table 5-15 Serial configuration

| Port Profile | | | | |
|---|------|-------------------------|-------------------------|---|
| Industrial Device Server | | | | |
| open all Serial Device Server System Time(SNTP) P Configuration | Port | Profile | | - |
| User Authentication Ort Serial Setting | | | Port1 💌 | |
| Serial Configuration Port Profile | | Local TCP Port | 4000 | |
| Service Mode Management | | Command Port | 4001 | |
| Save/Reboot | | Mode | Serial to Ethernet | |
| | | Flush Data Buffer After | 0 ms | |
| | | Delimiter(Hex 0~ff) | 1: 00 2: 00 3: 00 4: 00 | |
| | | Mode | Ethernet to Serial | |
| | | Flush Data Buffer After | 0 ms | |
| | | Delimiter(Hex 0~ff) | 1: 00 2: 00 3: 00 4: 00 | |
| | | Apply | | - |

Figure 5-27 Port Profile



| Label | Description | | | |
|--------------------|--|--|--|--|
| | Flush Data Buffer After: | | | |
| | The received data will be queued in the buffer until all the delimiters are matched. | | | |
| | When the buffer is full (4K Bytes) or after "flush S2E data buffer" timeout, the data will | | | |
| | also be sent. You can set the time from 0 to 65535 seconds. | | | |
| Serial to Ethernet | | | | |
| | Delimiter: | | | |
| | You can define max. 4 delimiters (00~FF, Hex) for each way. The data will be hold until | | | |
| | the delimiters are received or the option "Flush Serial to Ethernet data buffer" times | | | |
| | out. 0 means disable. Factory default is 0 | | | |
| | Flush Data Buffer After: | | | |
| | The received data will be queued in the buffer until all the delimiters are matched. | | | |
| | When the buffer is full (4K Bytes) or after "flush E2S data buffer" timeout, the data will | | | |
| | also be sent. You can set the time from 0 to 65535 seconds. | | | |
| Ethernet to serial | | | | |
| | Delimiter: | | | |
| | You can define max. 4 delimiters (00~FF, Hex) for each way. The data will be hold until | | | |
| | the delimiters are received or the option "Flush Ethernet to Serial data buffer" times | | | |
| | out. 0 means disable. Factory default is 0 | | | |

Table 5-16 Port Profile



Service Mode – Virtual COM Mode

In Virtual COM Mode, the driver establishes a transparent connection between host and serial device by mapping the Port of the serial server serial port to local COM port on the host computer. Virtual COM Mode also supports up to 5 simultaneous connections, so that multiple hosts can send or receive data by the same serial device at the same time.

| Industrial Device Server | | | | |
|--|-------|----------------|---------------------------|--|
| open all | Servi | ice Mode | | |
| User Authentication Iser Authentication | | | Port1 V | |
| Serial Configuration Port Profile | | Service Mode | Virtual COM Mode 💌 | |
| Service Mode Management | | Idle Timeout | 0 (0~65535)seconds | |
| in Save/Reboot i Help | | Alive Check | 420 (0~65535)seconds | |
| | | Max Connection | 1 v max. connection (1~5) | |
| | | Apply | | |

Figure 5-28 Virtual COM mode

| Label | Description | | |
|--------------|---|--|--|
| | When serial port stops data transmission for a defined period of time (Idle Timeout), the | | |
| Idle Timeout | connection will be closed and the port will be freed and try to connect with other hosts. | | |
| | 0 indicate disable this function. Factory default value is 0. If Multilink is configured, | | |
| | only the first host connection is effective for this setting. | | |



| Alive Check | The serial device will send TCP alive-check package in each defined time interval (Alive |
|----------------|--|
| | Check) to remote host to check the TCP connection. If the TCP connection is not |
| | alive, the connection will be closed and the port will be freed. 0 indicate disable this |
| | function. Factory default is 0. |
| Max Connection | The number of Max connection can support simultaneous connections are 5, default |
| | values is 1. |

Table 5-17 Virtual COM mode

*Not allowed to mapping Virtual COM from web

Service Mode – TCP Server Mode

In TCP Server Mode, DS is configured with a unique Port combination on a TCP/IP network. In this case, DS waits passively to be contacted by the device. After the device establishes a connection with the serial device, it can then proceed with data transmission. TCP Server mode also supports up to 5 simultaneous connections, so that multiple device can receive data from the same serial device at the same time.

| open all ③ Serial Device Server □ ③ System ④ Time(SNTP) ④ IP Configuration | | al Device S | Server | |
|--|--|-----------------|--------------------------|--|
| 📓 User Authentication 🗆 🔄 Port Serial Setting | | | Port1 V | |
| Serial Configuration Port Profile | | Service Mode | TCP Server Mode 💌 | |
| Service Mode Management | | TCP Server Port | 4000 | |
| Save/Reboot | | Idle Timeout | 0 (0~65535)seconds | |
| 🖼 Helb | | Alive Check | 420 (0~65535)seconds | |
| | | Max Connection | 1 v max. connection(1~5) | |
| | | Apply | | |

Figure 5-29 TCP Server Mode



| Label | Description | | |
|-----------------|--|--|--|
| TCP Server Port | Set the port number for data transmission. | | |
| | When serial port stops data transmission for a defined period of time (Idle Timeout), the | | |
| Idle Time and | connection will be closed and the port will be freed and try to connect with other hosts. 0 | | |
| Idle Timeout | indicate disable this function. Factory default value is 0. If Multilink is configured, only | | |
| | the first host connection is effective for this setting. | | |
| | The serial device will send TCP alive-check package in each defined time interval (Alive | | |
| Alive Check | Check) to remote host to check the TCP connection. If the TCP connection is not alive, | | |
| | the connection will be closed and the port will be freed. 0 indicate disable this function. | | |
| | Factory default is 0. | | |
| Max Connection | The number of Max connection can support simultaneous connections are 5, default values | | |
| | is 1. | | |

Table 5-18 TCP server mode

Service Mode – TCP Client Mode

In TCP Client Mode, device can establish a TCP connection with server by the method you set (Startup or any character). After the data has been transferred, device can disconnect automatically from the server by using the TCP alive check time or Idle timeout settings.



| open all Serial Device Server System Simme(SNTP) IP Configuration | USTRIAL DEVICE S | Server |
|---|------------------|-------------------------|
| User Authentication Ort Serial Setting | | Port1 💌 |
| Serial Configuration Port Profile | Service Mode | TCP Client Mode 💌 |
| Service Mode Management | Destination Host | 0.0.0.0 : 4000 |
| Save/Reboot Help | Idle Timeout | 0 (0~65535)seconds |
| | Alive Check | 420 (0~65535)seconds |
| | Connect on | ⊙Startup ◯Any Character |
| | Destination Host | Port |
| | 1. 0.0.0.0 | 65535 |
| | 2. 0.0.0.0 | 65535 |
| | 3. 0.0.0.0 | 65535 |
| | 4. 0.0.0.0 | 65535 |
| | Apply | |

Figure 5-30 TCP client mode

| Label | Description | |
|--------------------|--|--|
| Destination Host | Set the IP address of host and the port number of data port. | |
| | When serial port stops data transmission for a defined period of time (Idle Timeout), the | |
| Idle Timeout | connection will be closed and the port will be freed and try to connect with other hosts. 0 | |
| Idle Timeout | indicate disable this function. Factory default value is 0. If Multilink is configured, only | |
| | the first host connection is effective for this setting. | |
| | The serial device will send TCP alive-check package in each defined time interval (Alive | |
| Alive Check | Check) to remote host to check the TCP connection. If the TCP connection is not alive, | |
| Alive Check | the connection will be closed and the port will be freed. 0 indicate disable this function. | |
| | Factory default is 0. | |
| Connect on Startup | The TCP Client will build TCP connection once the connected serial device is started. | |



| Connect on Any | The TCP Client will build TCP connection once the connected serial device starts to send |
|----------------|--|
| Character | data. |

Table 5-19 TCP client mode

Service Mode – UDP Client Mode

Compared to TCP communication, UDP is faster and more efficient. In UDP mode, you can Uni-cast or Multi-cast data from the serial device server to host computers, and the serial device can also receive data from one or multiple host

| open all Serial Device Server System Time(SNTP) ♥ Configuration | | | | |
|--|--|---------------|---------------------|-----------|
| User Authentication Or Serial Setting Serial Configuration | | Service Mode | Port1 V UDP Mode | |
| Port Profile Service Mode Management | | Listen Port | 4000 | |
| Save/Reboot | | Host start IP | Host end IP | Send Port |
| 🖹 Help | | 1. 0.0.0.0 | 0.0.0.0 | 65535 |
| | | 2. 0.0.0.0 | 0.0.0.0 | 65535 |
| | | 3. 0.0.0.0 | 0.0.0.0 | 65535 |
| | | 4. 0.0.0.0 | 0.0.0.0 | 65535 |
| | | Apply | | |

Figure 5-31 UDP client mode



5.2.1.3 Management

Access IP Control

Access IP Control Settings allow you to add or block the remote host IP addresses to prevent unauthorized access. If host's IP address is in the accessible IP table, then the host will be allowed to access the DS. You can choose one of the following cases by setting the parameter.

- Only one host with a special IP address can access the device server, "IP address /255.255.255.255" (e.g., "192.168.0.1/255.255.255.255").
- Hosts on a specific subnet can access the device server. "IP address/255.255.255.0" (e.g., "192.168.0.2/255.255.255.0")
- 3. Any host can access the device server. Disable this function by un-checking the "Enable IP Filter" checkbox

| ORing Ind | ustrial D | evice S | erver | | |
|--|-------------|----------------------|----------------------------|-------------------------|--------------|
| pen all Serial Device Server System Time(SNTP) Bi IP Configuration | Access IP C | ontrol List | | | |
| User Authentication Ort Serial Setting | 🗖 Ena | ble IP Filtering (No | t check this option will a | allow any IP to have as | sessibility) |
| Serial Configuration Port Profile | No. | Activate the IP | IP Address | Netmask | |
| 🗃 Service Mode C Management | 1 | | | | |
| Access IP Control SMTP/SNMP Conf. | 2 | | | | |
| System Event Conf. | з | | | | |
| 🖹 Help | 4 | | | | |
| | 5 | | | | |
| | 6 | | | | |
| | 7 | | | | |
| | 8 | | | | |
| | 9 | | | | |
| | 10 | | | | |
| | 11 | | | | |
| | 12 | | | | |
| | 13 | | | | |
| | 14 | | | | |
| | 15 | | | | |
| | 16 | | | | |



SMTP/SNMP Conf

Email Server configuration includes the mail server's IP address or domain. If the authentication is required, specify your name and password. There are 4 Email addresses that you can specify to receive the notification.

SNMP Server configuration includes the SNMP Trap Server IP address, Community, Location and Contact. There are 4 SNMP addresses you can specify to receive the notification.

SysLog server configuration includes the server IP and server Port. This option need to use with DS-Tool.

| Industrial Device Server | | | | |
|--|------------------|-----------------------|--|--|
| open all Serial Device Server System Time(SNTP) Si IP Configuration | SMTP/SNMP Config | uration | | |
| User Authentication I continue of the second sec | E-mail Settings | | | |
| Serial Configuration Port Profile | SMTP Server | Port | | |
| Service Mode Management | 🗌 My server re | quires authentication | | |
| Access IP Control SMTP/SNMP Conf. System Event Conf. | User Name | | | |
| Save/Reboot | Password | | | |
| | E-mail Sender | | | |
| | E-mail Address : | | | |
| | E-mail Address (| | | |
| | E-mail Address (| | | |
| | E-mail Address · | 4 | | |
| | SNMP Trap Serve | er | | |
| | SNMP Server 1 | | | |
| | SNMP Server 2 | | | |
| | SNMP Server 3 | | | |
| | SNMP Server 4 | | | |

Figure 5-33 SMTP / SNMP conf



System Event Conf.

Specify the events that should be notified to the administrator. The events can be alarmed by E-mail, SNMP trap, or system log.

| open all Serial Device Server C System | USTRIAL DEVICE SERVER System Event Configuration | | | | |
|--|---|---------------------------------|--|--|--|
| Time(SNTP) IP Configuration | Device Event Notification | | | | |
| User Authentication Image: Contract Setting | Hardware Reset (Cold Start) SMTP Mail | SNMP Trap Syslog | | | |
| Serial Configuration Port Profile | Software Reset (Warm Start) | | | | |
| 📓 Service Mode E 🔄 Management | Login Failed SMTP Mail | | | | |
| Access IP Control SMTP/SNMP Conf. | IP Address Changed SMTP Mail | | | | |
| System Event Conf. Save/Reboot | Password Changed SMTP Mail | | | | |
| 🔀 Help | Access IP Blocked | SNMP Trap Syslog | | | |
| | Redundant Power Changed SMTP Mail | SNMP Trap Syslog | | | |
| | Redundant Ethernet Changed 🗌 SMTP Mail | SNMP Trap Syslog | | | |
| | Port Event Notification Port 1 💌 | | | | |
| | DCD Changed 🔲 SMTP Mail | SNMP Trap Syslog | | | |
| | DSR Changed SMTP Mail | SNMP Trap Syslog | | | |
| | RI Changed 🗌 SMTP Mail | SNMP Trap Syslog | | | |
| | CTS Changed 🔲 SMTP Mail | SNMP Trap Syslog | | | |
| | Port Connected SMTP Mail | SNMP Trap Syslog | | | |
| | Port Disconnected | SNMP Trap Syslog | | | |
| | Fault Event Notification and Fault LED/Relay | | | | |
| | Power 1 Fault SMTP Mail SNMP Tra | ap Syslog Fault LED/Relay | | | |
| | Power 2 Fault SMTP Mail SNMP Tra | ap 🗌 Syslog 🛛 🗍 Fault LED/Relay | | | |

Figure 5-34 SMTP / SNMP conf

| Label | Description | | |
|----------------------|---|--|--|
| Hardware Reset (Cold | This refers to starting the system from power off (contrast this with warm start). When | | |
| | performing a cold start, DS will automatically issue an Auto warning message by | | |
| Start) | sending E-mail, log information or an SNMP trap after booting. | | |



| r | |
|----------------------|---|
| Software Reset (Warm | This refers to restart the computer without turning the power off. When performing a |
| Start) | warm start, DS will automatically send an E-mail, log information or SNMP trap after |
| | reboot. |
| Login Failed | When an unauthorized access from the Console or Web interface, a notification will be |
| | sent. |
| IP Address Changed | When IP address of device changed, a notification will be sent. |
| Password Changed | When password of device changed, a notification will be sent. |
| Access IP Blocked | When the host accesses the device with blocked IP addresses, a notification will be |
| | sent. |
| Redundant Power | When status of power changed, a notification will be sent. |
| Change | |
| Redundant Ethernet | When status of Ethernet port changed, a notification will be sent. |
| Change | |
| DCD changed | When DCD (Data Carrier Detect) signal changes, it indicates that the modem |
| | connection status has been changed. A Notification will be sent. |
| DSR changed | When DSR (Data Set Ready) signal changes, it indicates that the data communication |
| | equipment is powered off. A Notification will be sent. |
| RI changed | When RI (Ring Indicator) signal changes, it indicates an incoming call. Notification will |
| | be sent. |
| CTS changed | When CTS (Clear To Send) signal changes, it indicates that the transmission between |
| | computer and DCE can proceed. A notification will be sent. |
| Port connected | In TCP Server Mode, when the device accepts an incoming TCP connection, this event |
| | will be trigger. In TCP Client Mode, when the device has connected to the remote host, |
| | this event will be trigger. In Virtual COM Mode, Virtual COM is ready to use. A |
| | notification will be sent. |
| Port disconnected | In TCP Server/Client Mode, when the device lost the TCP link, this event will be trigger. |
| | In Virtual COM Mode, When Virtual COM is not available, this event will be trigger. A |
| | notification will be sent. |
| Power 1 Fault | When Power 1 Fault, a notification will be sent and the Fault LED will be lighted. |
| Power 2 Fault | When Power 2 Fault, a notification will be sent and Fault LED will be lighted. |
| | |



| Eth1 link down | When Eth1 link down, a notification will be sent and Fault LED will be lighted. |
|----------------|---|
| Eth2 link down | When Eth2 link down, a notification will be sent and Fault LED will be lighted. |

Table 5-20 System event conf

5.2.1.4 Save/Reboot

| ORing) Ind | lustrial Davias Carver |
|---|---|
| ind | ustrial Device Server |
| | |
| open all | |
| Serial Device Server System | Factory Default |
| Time(SNTP) IP Configuration | Reset to default configuration. Click Reset button to reset all configurations to the default value. |
| User Authentication Ort Serial Setting Serial Configuration | Reset |
| Port Profile | Restore Configuration |
| Service Mode Management | You can restore the previous saved configuration to Device Server. |
| Access IP Control SMTP/SNMP Conf. | File to restore: 浏览 |
| 📓 System Event Conf. | Restore |
| Save/Reboot Help | |
| | Backup Configuration |
| | You can save current EEPROM value from the Device Server as a backup file of configuration. |
| | Backup |
| | |
| | Upgrade Firmware |
| | Specify the firmware image to upgrade. Note: Please DO NOT power off this device while upgrading firmware. |
| | Firmware: 浏览 |
| | Upgrade |
| | |
| | Reboot Device Please click [Reboot] button to restart device. |
| | Please click [Reboot] button to restart device. |
| | |
| | |

Figure 5-35 Save / Reboot



| Label | Description | | |
|------------------|---|--|--|
| Factory Default | Load default configuration except settings of Network. If you want load all factory default, | | |
| Factory Default | you should press " Reset " button about the five seconds on the device (Hardware restore). | | |
| Restore | Destars the provision sympetric destriction | | |
| Configuration | Restore the previous exported configuration. | | |
| Backup | Export the current configuration to a file. | | |
| Configuration | | | |
| Upgrade Firmware | Upgrade to a new firmware with specified file. | | |
| Reboot Device | Reboot the device server (warm start). | | |

Table 5-21 Save / Reboot

5.3 Configuration by SSH Console

5.3.1 Connect to DS

You can use SSH Tool (e.g., PUTTY) to access SSH console of DS. The SSH console interface is shown below.

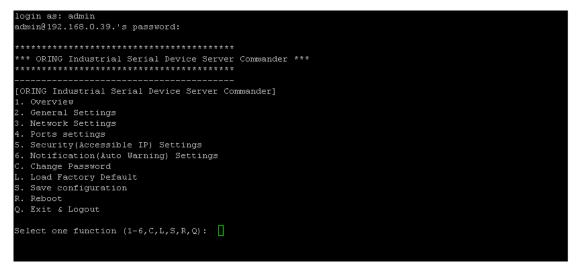


Figure 5-36 SSH



Technical Specifications

| Network Interface | |
|----------------------|--|
| Ethernet | 1x 10/100Base-T(X) LAN |
| connector | RJ-45 |
| Protection | Built-in1.5KV magnetic isolation |
| Protocols | ICMP, IP, TCP, UDP, DHCP, BOOTP, ARP/RARP, DNS, SNMP |
| Protocols | MIB II, HTTPS, SSH |
| WLAN Feature | |
| Operating Mode | Client mode |
| Antenna Connector | Reverse SMA |
| Radio Frequency Type | DSSS |
| | IEEE802.11b: CCK, DQPSK, DBPSK |
| Modulation | IEEE802.11g: OFDM with BPSK, QPSK, |
| | 16QAM, 64QAM |
| Frequency Band | America/FCC: 2.412~2.462 GHz (11 channels) |
| | Europe CE/ETSI: 2.412~2.472 GHz (13 channels) |
| Transmission Rate | IEEE802.11b: 1/ 2/ 5.5/ 11 Mbps |
| | IEEE802.11g: 6/ 9/ 12/ 18/ 24/ 36/ 48/ 54 Mbps |
| Transmit Power | IEEE802.11b/g: 16dBm |
| | WEP: (64-bit ,128-bit key supported) |
| Encryption | WPA: |
| | WPA2 :802.11i(WEP and AES encryption) |
| Security | PSK (256-bit key pre-shared key supported) 802.1X and Radius |
| | supported TKIP encryption |
| Wireless Security | SSID broadcast disable |



| Serial Interface | | |
|-------------------------|---|--|
| Interface | 1x RS232 / RS422 / 4(2)-Wire RS485. | |
| | Which can be configured by DS-Tool | |
| Connector | Male DB9 | |
| Serial Baud Rate | 110 bps to 230.4 Kbps | |
| Data Bits | 5, 6, 7, 8 | |
| Parity | odd, even, none, mark, space | |
| Stop Bits | 1. 1.5, 2 | |
| RS-232 signals | TxD, RxD, RTS, CTS, DTR, DSR, DCD, RI, GND | |
| | (IDS-5011-WG/IDS-5011-WG+) | |
| RS-422 signals | Tx+,Tx-, Rx+, Rx-,GND | |
| RS-485 (4 wire) signals | Tx+,Tx-, Rx+, Rx-,GND | |
| RS-485 (2 wire) signals | Data+, Data-,GND | |
| Flow control | XON/XOFF, RTS/CTS, DTR/DSR | |
| Serial Line Protection | Built-in15KV ESD protection | |
| LED Indicators | PWR (1)(2) / Ready: | |
| | 1) Red On: Power is on and booting up. | |
| | Red Blinking: Indicates an IP conflict, or DHCP or BOOTP server | |
| | did not respond properly. | |
| | 2) Green On: Power is on and functioning normally. | |
| | Green Blinking: Located by Administrator. | |
| | ETH1 Link / ACT: | |
| | Orange ON/Blinking: 10 Mbps Ethernet | |
| | Green ON/Blinking:100 Mbps Ethernet | |
| | WLAN Link /ACT: Green: Link, Orange: Poor signal | |
| | Serial TX / RX LEDS: | |
| | Red: Serial port is receiving data | |
| | Green: Serial port is transmitting data. | |
| Power Requirements | | |
| Power Input | PWR1: 12 ~ 48VDC in power jack | |



| | PWR1: 12 ~ 48VDC in 3-pin Terminal Block | |
|-----------------------------|--|--|
| Reverse Polarity Protection | Present at terminal block | |
| Power Consumption | 4 Watts MAX | |
| Software Utility | | |
| Utility | DS-Tool for Windows NT/2000/XP/ 2003/VISTA which include | |
| | Device discovery | |
| | Auto IP report | |
| | Device setting (run-time change, no rebooting) | |
| | Access control list | |
| | Group setting | |
| | Device monitoring | |
| | Serial port monitoring | |
| | Log info | |
| | Group Firmware update | |
| | Virtual Com / TCP Server / TCP Client / UDP /Serial Tunnel | |
| Serial Mode | TCP Alive Check Timeout | |
| | Inactivity Timeout | |
| | Delimiter for Data Packing | |
| | Force TX Timeout for Data Packing | |
| Multiple Link | 5 Hosts simultaneous connection: Virtual Com / | |
| | TCP server / TCP Client / UDP | |
| VCOM Driver | Windows NT/2000/XP/2003/VISTA | |
| Configuration | Web HTTPS console, SSH console, Console Command | |
| | DS-Tool for Windows | |
| | NT/2000/XP/VISTA | |
| Environmental | | |
| Operating Temperature | -10 to 55°C (14 to 131°F) | |
| Operating Humidity | 5% to 95%(Non-condensing) | |
| Storage Temperature | -20 to 85°C (-4 to 185°F) | |
| Mechanical | | |



| Dimensions(W x D x H) | 72mm(W)x125mm(D)x31mm(H) | |
|-----------------------|--------------------------------------|--|
| Casing | IP-30 protection | |
| Regulatory Approvals | | |
| Shock | IEC 60068-2-27 | |
| Free Fall | IEC 60068-2-32 | |
| Vibration | IEC 60068-2-6 | |
| 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) | |
| Warranty | 5 years | |