DEVICE SERVER

ORing

Quick Installation Guide

IDS-342GT

Industrial secure serial port to Ethernet Device Server

Introduction

The **IDS-342GT** is an industrial device server with four RS-232/422/485 ports and two Gigabit LAN ports designed for converting signals between serial and Ethernet networks. It provides standard features of device servers such as TCP/IP interfaces and versatile operation modes including Virtual Com, Serial Tunnel, TCP Server, TCP Client, and UDP. The device also supports Windows utility DS-Tool which allows you to configure multiple devices and set up the mappings of Virtual Com. The device can transfer data to five host PCs simultaneously for redundancy in case of Ethernet connection breakdown or host PC failure. Further, the device supports HTTPS, SSH, and SSL encryption to assure the security of critical data transmission.

Package Contents

The device is shipped with the following items. If any of these items is missing or damaged, please contact your customer service representative for assistance.

| Contents	Pictures	Number
IDS-342GT		X 1
CD		X 1
DIN-rail Kit		X 1
Wall-mount Kit		X 1
QIG		X 1

Preparation

Before you begin installing the device, make sure you have all of the package contents available and a PC with Microsoft Internet Explorer 6.0 or later, for using web-based system management tools.

Safety & Warnings

⚠ **Elevated Operating Ambient:** If installed in a closed environment, make sure the operating ambient temperature is compatible with the maximum ambient temperature (Tma) specified by the manufacturer.

⚠ **Reduced Air Flow:** Make sure the amount of air flow required for safe operation of the equipment is not compromised during installation.

⚠ **Mechanical Loading:** Make sure the mounting of the equipment is not in a hazardous condition due to uneven mechanical loading.

⚠ **Circuit Overloading:** Consideration should be given to the connection of the equipment to the supply circuit and the effect that overloading of the circuits might have on overcurrent protection and supply wiring. Appropriate consideration of equipment nameplate ratings should be used when addressing this concern.
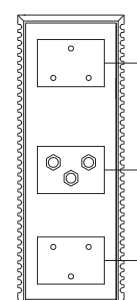
Dimension
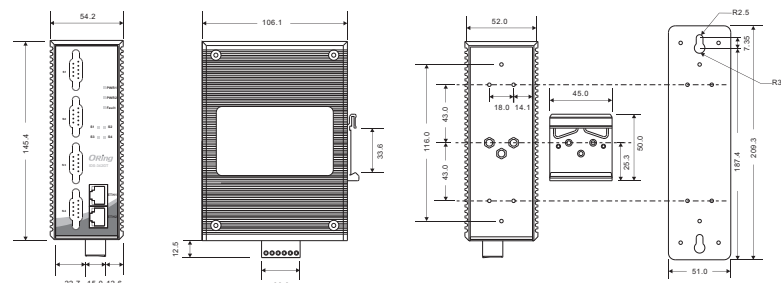
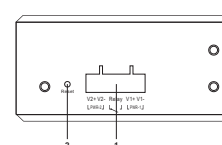## Panel Layouts

Front View
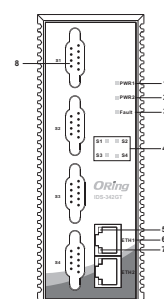
1. Power module 1 status indicator
2. Power module 2 status indicator
3. Faulty relay indicator
4. Indicator for serial data communications
5. Indicator for LAN port speed
6. LAN port
7. Indicator for LAN port connection status
8. Serial port

Rear View

1. Din-rail screw holes
2. Wall-mount screw holes

Bottom View

1. Terminal block with power connectors
2. Reset button

Installation

Use the mounting kits attached with the package and follow the steps below to install the switch to a rail or to the wall.

DIN-rail Installation

Step 1: Slant the switch and screw the Din-rail kit onto the back of the switch, right in the middle of the back panel.
Step 2: Slide the switch onto a DIN-rail from the Din-rail kit and make sure the switch clicks into the rail firmly.
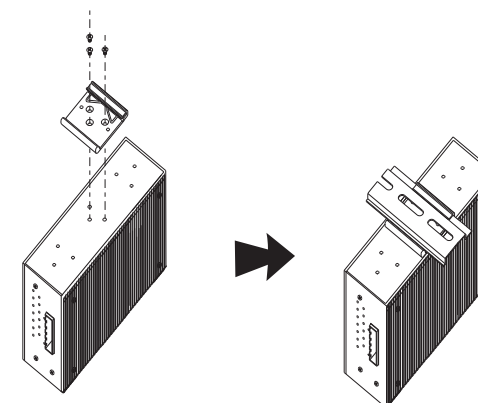
Wall-mounting

Step 1: Screw the wall-mount kit (in the package) onto the back of the switch. A total of six screws are required, as shown below.
Step 2: Use the switch, with wall mount plates attached, as a guide to mark the correct locations of the wall-mounting screws.
Step 3: Insert a screw head through the large part of the keyhole-shaped aperture on the plate, and then slide the switch downwards. Tighten the screw for added stability.
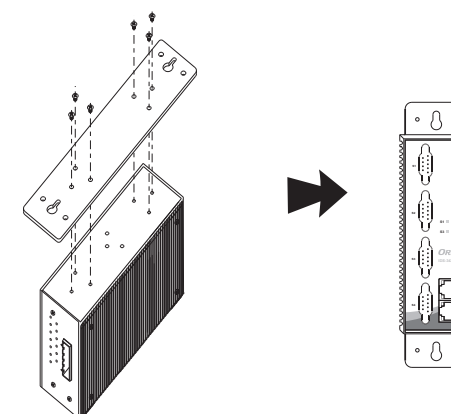
⚠ Instead of screwing the screws in all the way, it is advised to leave a space of about 2mm to allow room for sliding the switch between the wall and the screws.

Network Connection

The series have standard Ethernet ports. Depending on the link type, the switch uses CAT 3, 4, 5, 5e UTP cables to connect to network devices (PCs, servers, switches, routers, or hubs). Please refer to the following table for cable specifications.

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Cable Types and Specifications:

Cable	Type	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
1000Base-T	Cat. 5/Cat 5e 100-ohm UTP	UTP 100 m (328 ft)	RJ-45

**For pin assignments for different types of cables, please refer to the following tables.**

10/100 Base-T(X) RJ-45

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

1000Base-T RJ-45 port

Pin Number	Assignment
#1	BI_DA+
#2	BI_DA-
#3	BI_DB+
#4	BI_DC+
#5	BI_DC-
#6	BI_DB-
#7	BI_DD+
#8	BI_DD-

10/100 Base-T(X) MDI/MDI-X

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

1000Base-T RJ-45

Pin Number	MDI port	MDI-X port
1	BI_DA+	BI_DB+
2	BI_DA-	BI_DB-
3	BI_DB+	BI_DA+
4	BI_DC+	BI_DD+
5	BI_DC-	BI_DD-
6	BI_DB-	BI_DA-
7	BI_DD+	BI_DC+
8	BI_DD-	BI_DC-

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

● DB9 serial port

The device can be connected to a serial device using a DB9 cable. The DB9 connector supports RS232 / RS422 / RS485 operation modes. Please refer to the following table for the pin assignments of the DB9 connector.

1 2 3 4 5
6 7 8 9

DB9 connector
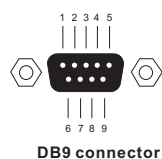
| Pin #	RS-232	RS-422	RS-485 (4 wire)	RS-485 (2 wire)
1	DCD	TX-	TX-	DATA -
2	RXD	TX+	TX+	DATA +
3	TXD	RX+	RX+	
4	DTR	RX-	RX-	
5	GND	GND	GND	
6	DSR			
7	RTS			
8	CTS			
9	RI			

● Wiring

Grounding

Grounding and wire routing help limit the effects of noise due to electromagnetic interference (EMI). Run the ground connection from the ground screws to the grounding surface prior to connecting devices.

Power inputs

The device has two sets of DC power inputs on a 6-pin terminal block located on bottom of the device. Follow the steps below to wire the power input on the terminal block.

V2+ V2-　Relay　V1+ V1-
└ PWR-2 ┘　└　┘　└ PWR-1 ┘
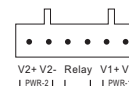
STEP 1: Insert the negative/positive wires into the V-/V+ terminals, respectively.
STEP 2: To keep the wires from pulling loose, use a small flat-blade screwdriver to tighten the wire-clamp screws on the front of the connector.
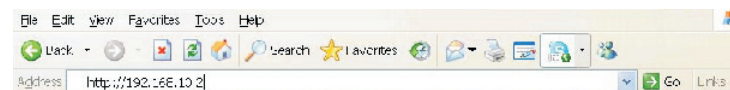
Configurations

After installing the switch, the green power LED should turn on. Please refer to the following tablet for LED indication.

LED	Color	Status	Description
PWR1/2	Green	On	Power is on and function normally
10/100/1000Base-T(X) Ethernet ports			
LNK/ACT	Green	On	Port is connected
	Green	Blinking	Transmitting data
Speed	Green	On	Port running at 1000Mbps.
	Amber	On	Port running at 100Mbps.
	Green/ Amber	Off	Port running at 10Mbps.
Fault	Amber	On	Faulty relay (power failure or port disconnected)
Serial ports			
S1~S4	Red	On	Receiving data
	Green	On	Transmitting data

Follow the steps to set up the card:

1. Launch the Internet Explorer and type in IP address of the switch. The default static IP address is **192.168.10.2**

File   Edit   View   Favorites   Tools   Help
Back
Address   http://192.168.10.2   Go   Links

2. Log in with the default user name "admin". By default, no password is required: however, you can set up a password later in the management page. After logging in, you should see the following screen. For more information on configurations, please refer to the user manual. For information on operating the switch using Oring's Open-Vision management utility, please go to ORing website.

Windows Security
Enter Network Password
Enter your password to connect to: PC-SWRD19
admin
Domain: ORING
☐ Remember my credentials
⊗ Logon failure: unknown user name or bad password.
OK   Cancel

● Resetting

To restore the switch configurations back to the factory defaults, press the **Reset** button for 5 seconds.

Specifications

ORing Device Server Model	IDS-342GT
Physical Ports	
10/100/1000Base-T(X) Ports in Auto MDI/MDIX	2
Serial Ports	
Connector	DB9 x 4
Operation Mode	RS-232/422/485
Serial Baud Rate	110 bps to 921.6 Kbps
Data Bits	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 2 wire: Data-, Data+
Flow Control	XON/XOFF, RTS/CTS, DTR/DSR
Network Protocol	
Protocol	ICMP, IP, TCP, UDP, DHCP, BOOTP, SSH, DNS, SNMP, V1/V2c, HTTPS
Power	
Redundant Input power	Dual DC inputs. 12~48VDC on 6 pin terminal block
Power Consumption(Typ.)	6.96W
Overload current protection	Present
Reverse polarity protection	Present on terminal block
Physical Characteristic	
Enclosure	IP-30
Dimension (W x D x H)	54.2(W)x 106.1(D)x 145.4(H) mm (2.13x4.18x5.72 inch.)
Weight (g)	740g
Environmental	
Storage Temperature	-40 to 85°C (-40 to 185°F)
Operating Temperature	-40 to 70°C (-40 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, EN61373
Free Fall	IEC60068-2-32
Vibration	IEC60068-2-6
Safety	EN60950-1
Warranty	5 years

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