

Quick Installation Guide

IGS-C3082GP Series Industrial Managed Gigabit Switch

Introduction

IGS-C3082GP Series are managed redundant ring Ethernet switch with up to 8x10/100/1000 Base-T(X) ports and 2x100/1000Base-X, SFP socket which is specifically designed for the toughest. **IGS-C3082GP Series** support wide operating temperature from -40° C to 75° C which can fulfill most of the requirement of operation environment. Therefore, the **IGS-C3082GP Series** switch is one of the most reliable choices for highly-managed Ethernet application.

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
IGS-C9082GP or IGS-C9042GP		X 1
CD Card		X 1
DIN-rail Kit		X 1
Console Cable		X 1
QIG		X 1

Preparation

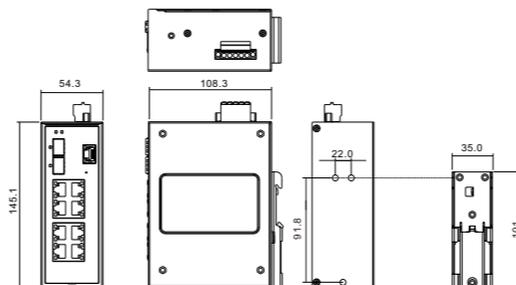
Before you begin installing the switch, make sure you have all of the package contents available and a PC with Microsoft Internet Explorer 6.0 or later, for using web-based system management tools.

Safety & Warnings

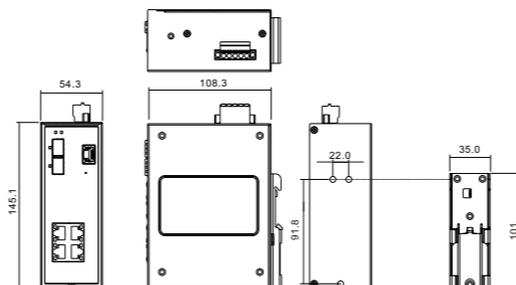
- Elevated Operating Ambient:** If installed in a closed or multi-unit rack assembly, the operating ambient temperature of the rack environment may be greater than room ambient. Therefore, consideration should be given to installing the equipment in an environment compatible with the maximum ambient temperature (T_{ma}) specified by the manufacturer.
- Reduced Air Flow:** Installation of the equipment in a rack should be such that the amount of air flow required for safe operation of the equipment is not compromised.
- Mechanical Loading:** Mounting of the equipment in the rack should be such that a hazardous condition is not achieved 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 Unit =mm (Tolerance ±0.5mm)

IGS-C3082GP

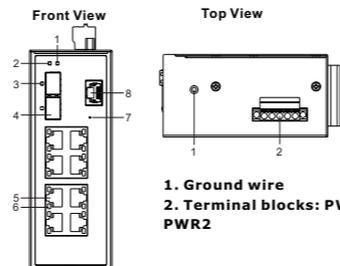


IGS-C3042GP



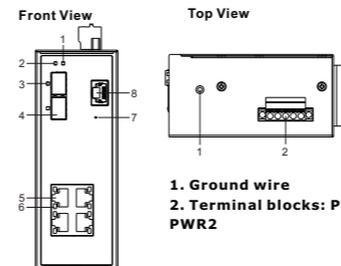
Panel Layouts

IGS-C3082GP



1. PWR indicators
2. Ring status LED
3. Link/Act LED for Gigabit SFP ports
4. Gigabit SFP ports
5. Gigabit LAN ports
6. Link/Act LED for Gigabit LAN ports
7. Reset button
8. Console port

IGS-C3042GP



1. Ground wire
2. Terminal blocks: PWR1, PWR2
1. PWR indicators
2. Ring status LED
3. Link/Act LED for Gigabit SFP ports
4. Gigabit SFP ports
5. Gigabit LAN ports
6. Link/Act LED for Gigabit LAN ports
7. Reset button
8. Console port



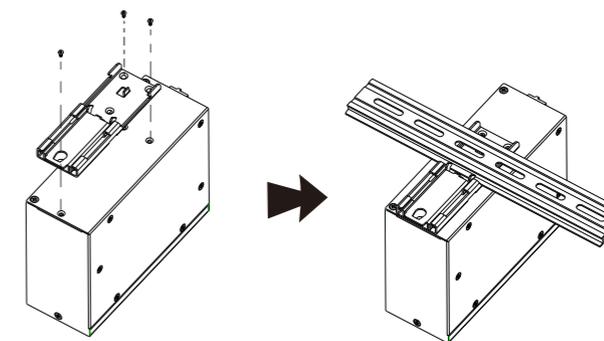
Warning [AVERTISSEMENT]

- Take into consideration the following guidelines before wiring the device.
 [Tenez compte des directives suivantes avant de câbler l'appareil.]
 1. Terminal block is mating with Plug and suitable for 12-24AWG. Torque value 4.5 lb-in.
 [Le bornier est compatible avec les connecteurs et convient pour 12-24AWG. Valeur de couple 4,5 lb-in.]
 2. The temperature rating of the input connection cable should higher than 105°C
 [La température de service nominale du câble d'entrée doit être supérieure à 105 °C]
 3. Use Copper Conductors Only.
 [Utilisez uniquement des conducteurs en cuivre.]
- * Indoor use and pollution degree II, it must be wiped with a dry cloth for clean up the device and label.
 - * Utilisation en intérieur et degré de pollution II, il faut l'essuyer avec un chiffon sec pour nettoyer l'appareil et son étiquette.
 - * Do not block air ventilation holes.
 - * Ne bouchez pas les orifices de ventilation.
 - * If the equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.
 - * Si l'appareil est utilisé d'une manière non spécifiée par le fabricant, la protection qu'il apporte peut se voir diminuée.
 - * Shall be mounted in the Industrial Control Panel and ambient temperature is not exceed 75 degree C
 - * doit être monté dans le panneau de commande industriel et la température ambiante ne doit pas dépasser 75 degrés C.

Installation

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.



Network Connection

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

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 Port	
Pin Number	Assignments
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 MDI/MDI-X		
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.

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IGS-C3082GP Series Industrial Managed Gigabit Switch

Specifications

ORing Switch Model	IGS-C3042GP	IGS-C3082GP
Physical Ports		
10/100/1000Base-T(X) Ports Auto MDI/MDIX	4	8
100/1000Base-X, SFP socket	2	
Technology		
Ethernet Standards	IEEE 802.3 for 10Base-T IEEE 802.3u for 100Base-TX IEEE 802.3ab for 1000Base-T IEEE 802.3z for 1000Base-X IEEE 802.3x for Flow control IEEE 802.3ad for LACP (Link Aggregation Control Protocol) IEEE 802.1D for STP (Spanning Tree Protocol) IEEE 802.1p for COS (Class of Service) IEEE 802.1Q for VLAN Tagging IEEE 802.1w for RSTP (Rapid Spanning Tree Protocol) IEEE 802.1s for MSTP (Multiple Spanning Tree Protocol) IEEE 802.1x for Authentication IEEE 802.1AB for LLDP (Link Layer Discovery Protocol)	
MAC Table	8k	
Priority Queues	8	
Processing	Store-and-Forward	
Switch Properties	Switching latency: 7us Switching bandwidth: 18Gbps Max. Number of Available VLANs: 4096 IGMP multicast groups: 128 for each VLAN port rate limiting: User Define	
Jumbo frame	Up to 9.6K Bytes	
Security Features	Device Binding security feature Enable/disable ports, MAC based port security Port based network access control (802.1x) VLAN (802.1Q) to segregate and secure network traffic Radius centralized password management SNMPv3 encrypted authentication and access security Https / SSH enhance network security	
Software Features	STP/RSTP/MSTP (IEEE 802.1D/w/s) Redundant Ring (O-Ring) with recovery time less than 30ms over 250 units TOS/Diffserv supported Quality of Service (802.1p) for real-time traffic VLAN (802.1Q) with VLAN tagging IGMP Snooping IP-Based bandwidth management Application-based CoS management DOS/DDoS auto prevention Port configuration status, statistics, monitoring, security DHCP Server/Client/Relay SMTP Client	
Network Redundancy	O-Ring O-Chain MSTP (STP/RSTP compatible)	
Technology		
Power Input	Dual 24-48VDC on 5-pin terminal block	
Power Consumption (Typ.)	<10W	
Overload Current Protection	Present	
Physical Characteristic		
Enclosure	IP40	
Dimension (W x D x H)	54.3(W) x 108.3(D) x 145.1(H)mm (2.13 x 4.26 x 5.71 inches)	
Weight (g)	<700 g	
Environmental		
Storage Temperature	-40 to 85°C	
Operating Temperature	-40 to 75°C	
Operating Humidity	5% to 95% Non-condensing	
Regulatory Approvals		
EMI	FCC Part 15, CISPR (EN55032) 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	EN62368-1	
MTBF	>400,000 Hours	
Warranty	5 years	

Console Port Pin Definition

To connect the console port to an external management device, you need an RJ-45 to DB-9 cable, which is also supplied in the package. Below is the console port pin assignment information.

PC (male) pin assignment	RS-232 with DB9 (female) pin assignment (RJ45-DB9 cable)	RJ45 pin assignment
PIN#2 Rx/D	PIN#2 Rx/D	PIN#2 Rx/D
PIN#3 Tx/D	PIN#3 Tx/D	PIN#3 Tx/D
PIN#5 GND	PIN#5 GND	PIN#5 GND

Wiring

Power inputs

The switch supports dual redundant power supplies, Power Supply1 (PWR1) and Power Supply 2 (PWR2). The connections for PWR1, PWR2 and the RELAY are located on the terminal block.

STEP 1: Insert the negative/positive wires into the V-/V+ terminals, respectively.

STEP 2: To keep the DC wires from pulling loose, use a small flat-blade screwdriver to tighten the wire-clamp screws on the front of the terminal block connector.

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.

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	Green	On	DC power module 1 activated
PWR2	Green	On	DC power module 2 activated
Ring	Green	On	Ring enabled
		Blinking	Ring structure is broken (i.e. part of the ring is disconnected)
10/100/1000Base-T(X) Gigabit Ethernet ports			
LNK/ACT	Green	On	Port link up
		Blinking	Data transmitted
SFP ports			
LNK/ACT	Green	On	Port link up
		Blinking	Data transmitted

Follow the steps to set up the switch:

1. Launch the Internet Explorer and type in IP address of the switch. The default static IP address is **192.168.10.1**



2. Log in with default user name and password (both are **admin**). 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.



Resetting

To reboot the switch, press the **Reset** button for 2-3 seconds.

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

Contact for maintenance and repair service:

ORing

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