IoT Data Integration Server

IDIS-200 User Manual

Version 1.1

Sollae Systems Co., Ltd.

http://www.ezTCP.com

This symbol, found on your product or on its packaging, indicates that this product should not be treated as household waste when you wish to dispose of it. Instead, it should be handed over to an applicable collection point for the recycling of electrical and electronic equipment. By ensuring this product is disposed of correctly, you will help prevent potential negative consequences to the environment and human health, which could otherwise be caused by inappropriate disposal of this product. The recycling of materials will help to conserve natural resources. For more detailed information about the recycling of this product, please contact your local city office, household waste disposal service or the retail store where you purchased this product.

Contents

1 Overview

1.1 Overview

In the past, remote sensing system was limited to industrial sites. However, nowadays the system is being applied in all sectors of society as there are high demands on automation efficiency and IoT technology.

SCADA is a system where HMI operates with IoT sensor, RTU and PLC to monitor and to provide control of remote equipment. IDIS-200 collects data from multiple remote devices to one place, and deliver HMI control commands to provide an optimized solution for IoT environment.

1.2 Features

- Supports Modbus/TCP
- Max 100 Remote IoT Gateway
- Max 32 Human-Machine Interface(Human-Machine Interface, HMI)
- Robust secure options (SSL 3.0 / TLS 1.0, Password)
- Various Debugging function for communication status (RS232 Console, TELNET)
- Redundancy Operation (Master / Slave)
- Dual Power (AC 100V ~ 240V)

1.3 Application Diagram

1.3.1 System diagram

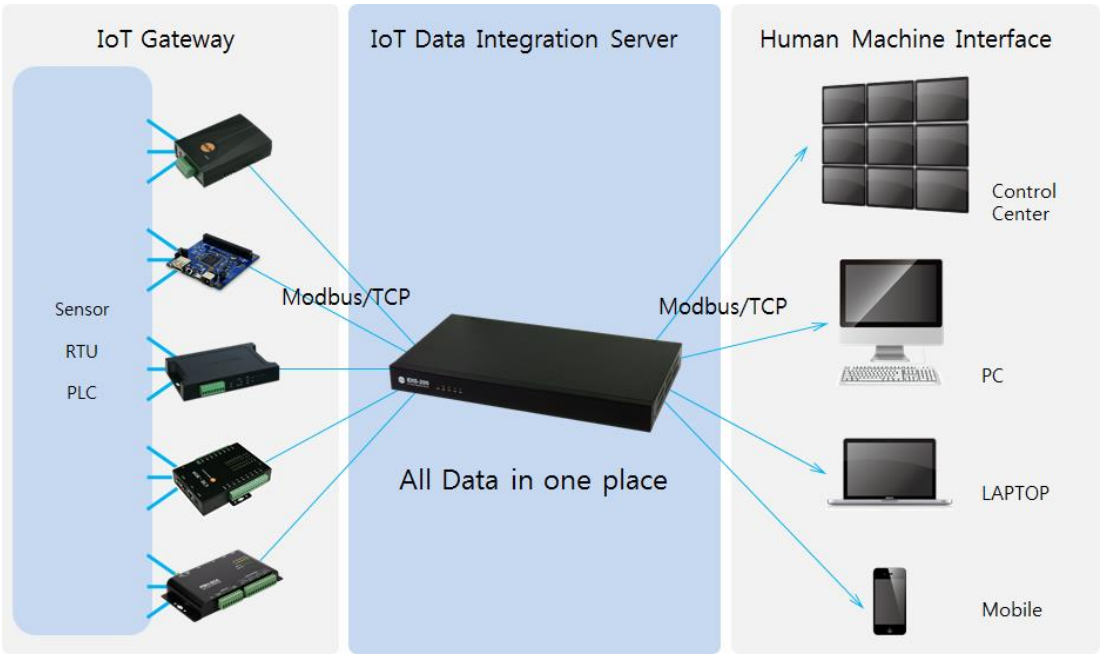

Figure 1-1 IDIS-200 application diagram

IDIS-200 operates as a server and stands by a connection from Gateway and HMI. Once it is connected, Modbus/TCP protocol is used to communicate with Gateway and HMI. Also, IDIS-200 supports simultaneous connections from up to 100 Gateways.

1.3.2 IDIS-200 Gateway Information memory area

The information of Gateway can be stored in IDIS-200 memory area and read the data at HMI. Gateway information memory area can be divided into system information memory area and Gateway data memory area.

- System information memory area

  It writes the communication status such as TCP connections along with information on gateway and time. It occupies the memory for every 10 words per Gateway.

- Gateway data memory area

  This area is for the data from Gateway. Gateway can be used up to 100 words each.

1.3.3 Communication to Gateway

IDIS-200 supports up to 100 Gateways. Each gateway has its own ID. Default ID is numbered from SOLLAE001 to SOLLAE100. After connecting to Gateway, verify ID and write data in Gateway data memory area. While it writes data, system information is also updated in System information memory area.

Modbus/TCP protocol is used for communication. IDIS-200 sends query depending on the type, unit and length of the query. Then, Gateway responses on data value. The data is written in the Gateway information data memory area of IDIS-200.

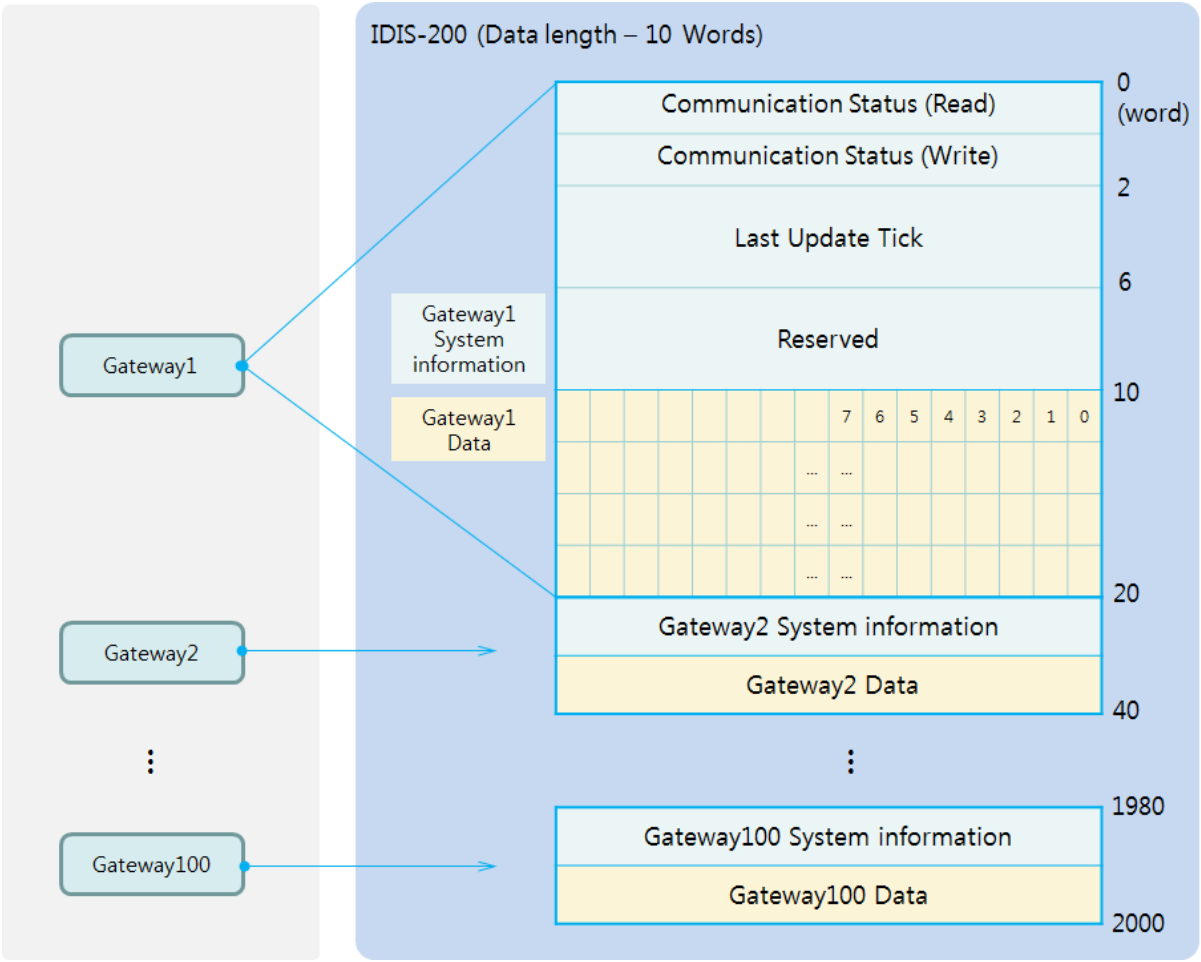

Figure 1-2 communication to gateway

1.3.4 Communication to HMI

Maximum 32 HMI can be connected to IDIS-200. It also uses Modbus/TCP protocol. After setting memory to the desired data, HMI sends queries to IDIS-200 and IDIS-200 sends data from the memory area.

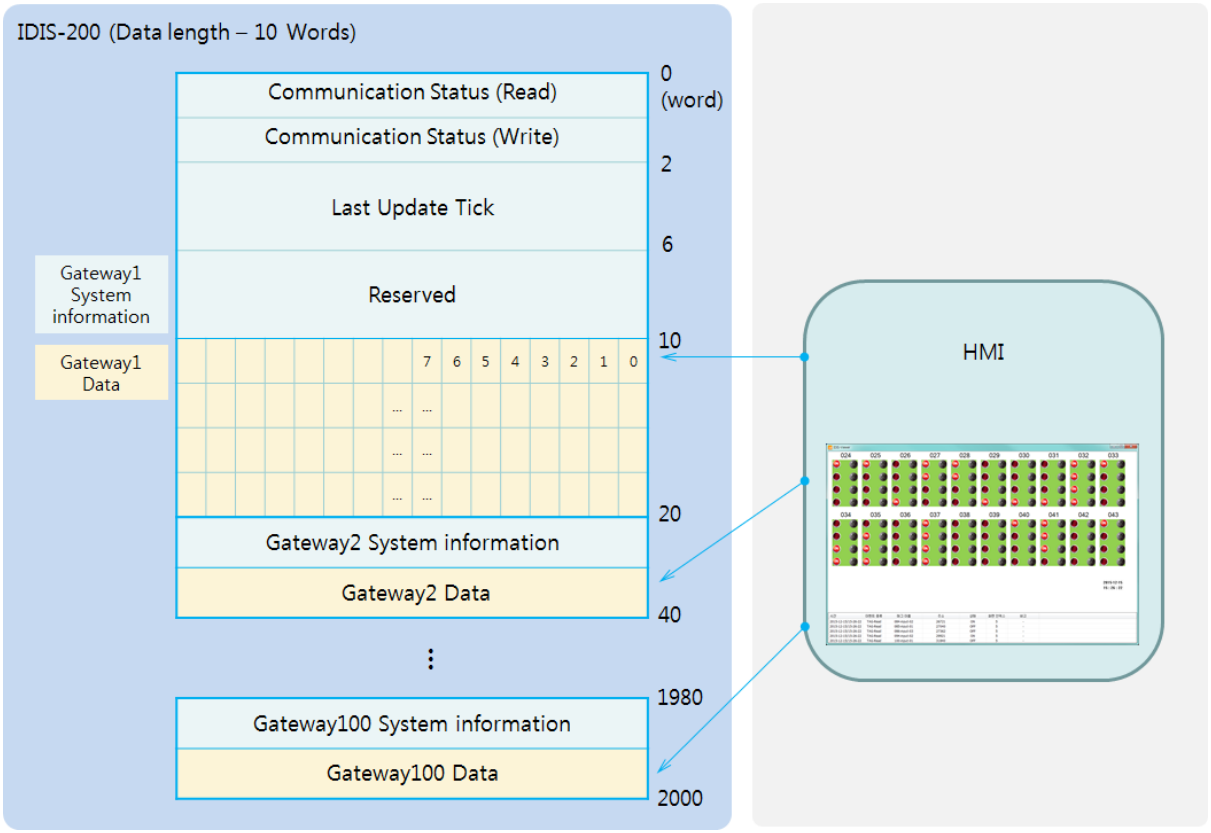

Figure 1-3 communication to HMI

1.4 Components

- IDIS-200 body
- Mounter

1.5 Specification

1.5.1 Hardware

Power	Input Voltage	AC100V ~ AC240V X 2
	Power Consumption	About 4W
Dimension	437mm X 240mm X 45mm	
Size	19 inch rack / 1U	
Weight	About 2.6Kg	
Interface	Serial	1 × RS232 – System Console 115,200bps / 8 Data-bit / 1 Stop-bit / Parity None
	Network	Ethernet 10Base-T or 100Base-TX (Auto) Auto MDI/MDIX(cable auto-sensing)
Temperature	Storage: -20 ~ 70℃ / Operating: 0 ~ 60℃	
Approval	KC	
RoHS	RoHS Compliant	

Table 1-1 Hardware specifications

1.5.2 Software

Protocol	TCP, IP, ICMP, ARP, DHCP, DNS, Modbus/TCP, TFTP, Telnet, SSL	
Major Utilities	IDIS Manager	Configuration tool for Windows O/S
	IDIS Maker	Design part of simple HMI for Windows O/S
	IDIS Viewer	Run part of simple HMI for Windows O/S

Table 1-2 Software specifications

1.6 Dimensions

1.6.1 Dimensions

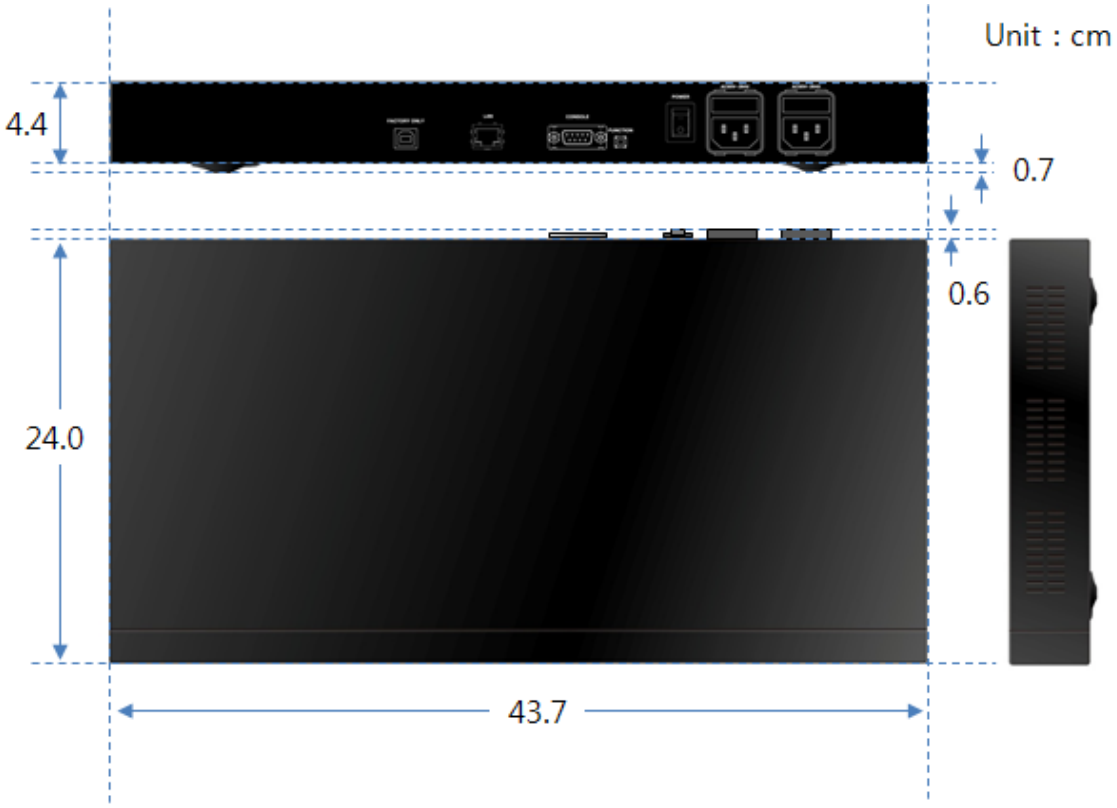

Figure 1-4 Dimensions

☞ ***Dimensions may vary according to a method of measurement.***

1.7 Interface

1.7.1 Layout

There are LAN port, console port, power input port, and etc., in the back panel. The front panel has five LEDs which indicates system status.

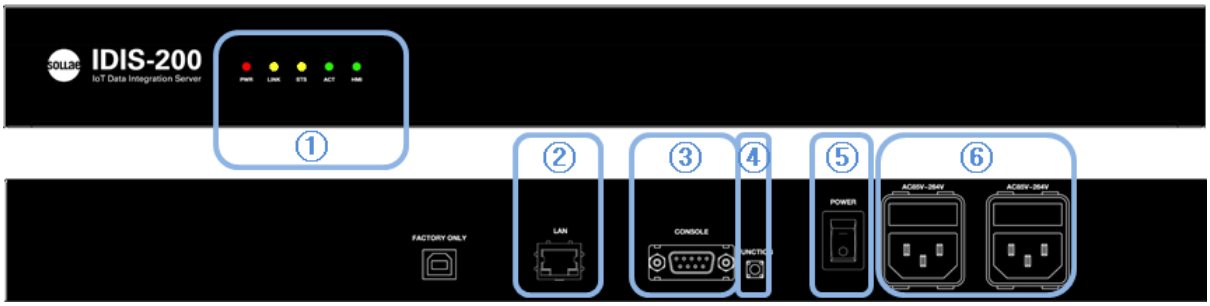

Figure 1-5 Panel layout

① STATUS LED: PWR, LINK, STS, ACT, HMI
② LAN port: Ethernet 10/100M
③ Console port: RS232 / 115,200bps / 8 Data-bit / 1 Stop-bit / Parity: None
④ FUNCTION button
⑤ POWER switch
⑥ Power input port: AC 100V ~ 240V

1.7.2 LED

Mode	Name	Color	Status	Description
-	PWR	Red	On	Supplying the power
Normal mode	LINK	Yellow	Blinks	Receiving or transmitting network data
			On	Connected to network
	STS	Yellow	Blinks once	IP address assigned
			Blinks four times at once	Fail to obtain a DHCP-assigned IP address
	ACT	Green	On	Redundancy active mode
	HMI	Green	On	HMI connected to IDIS-200

Table 1-3 LED information of the front panel

1.7.3 Network interface

IDIS-200 has an Ethernet port for network interface. It automatically detects Ethernet speed, 10Mbps or 100Mbps. In addition, it supports auto MDI/MDIX that detects the type of cable, 1:1 or cross.

Figure 1-6 RJ45 connector for Ethernet interface

- RJ45 Connector

Pin number	Pin name	Direction
1	TX+	Output
2	TX-	Output
3	RX+	Input
4	-	-
5	-	-
6	RX-	Input
7	-	-
8	-	-

Table 1-4 RJ45 connector

- LED indicator of RJ45

Color	Status	Description
Green	On	Connected to network
	Off	Not connected to network
	Blink	Receiving or transmitting network data
Yellow	On	Connected to 100Mbps Ethernet
	Off	Connected to 10Mbps Ethernet

Table 1-5 LED indicator of RJ45

1.7.4 Console port

IDIS-200 provides one RS232 port to debug product. This port is interfaced with D-sub 9 pin male connector and is configured to 115,200bps / 8 data bits / 1 stop bit / parity NONE.

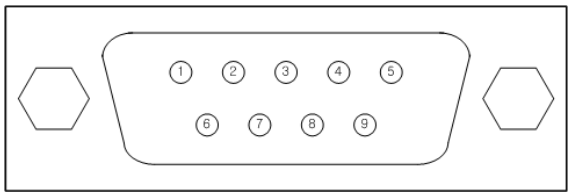

Figure 1-7 D-sub 9 pin male connector

- Pin assignment in RS232

Number	Name	Description	Level	Direction	Etc.
1	DCD	Data Carrier Detect	RS232	IN	N/C
2	RXD	Receive Data	RS232	IN	required
3	TXD	Transmit Data	RS232	OUT	required
4	DTR	Data Terminal Ready	RS232	OUT	N/C
5	GND	Ground	Ground	-	required
6	DSR	Data Set Ready	RS232	IN	N/C
7	RTS	Request To Send	RS232	OUT	N/C
8	CTS	Clear To Send	RS232	IN	N/C
9	RI	Ring Indicator	RS232	IN	N/C

Table 1-6 Pin assignment in RS232

☞ ***N/C: Not Connected***

1.7.5 FUNCTION Button

This button can be used to restore factory environment parameters.

1.7.6 Power

The operating voltage is AC 100V ~ 240V. There are 2 power input ports. If one port does not work, the other port can be used.

2 Configuration

2.1 Installation

2.1.1 Connection

Before configuration, IDIS-200 and a PC should be connected via serial or Ethernet. It is okay if there are switching hub between a PC and IDIS-200. Please refer to "2.3.2 Using TELNET" or "2.2 Configuration via IDIS Manager" in case of connecting with LAN cable, and refer to "2.3.3 Using Console" in case of connecting with serial cable.

Figure 2-1 Connection for configuration

☞ ***A USB to RS232 cable would be necessary in case if there's no RS232 port on a PC.***

2.1.2 Default settings

Environment parameters of IDIS-200 can be set via "Shell command" or "IDIS Manager". The table below shows the major parameters and the default value for each. Before use, all environment parameters should be set with proper values.

Name		Default value
Network	Local IP Address	192.168.1.200
	Subnet Mask	255.255.255.0
HMI	Local Port	502
Gateway	Normal port number	1470
	Secure port number (SSL)	1480
	Poll interval (sec)	1
	Communication fail time (sec)	180

Table 2-1 Default value of major parameters

2.2 Configuration via IDIS Manager

Some of important environment variables can be configured via IDIS manager for Windows OS. For the configuration, search IDIS-200 using "MAC Address Search" or "IP address Search".

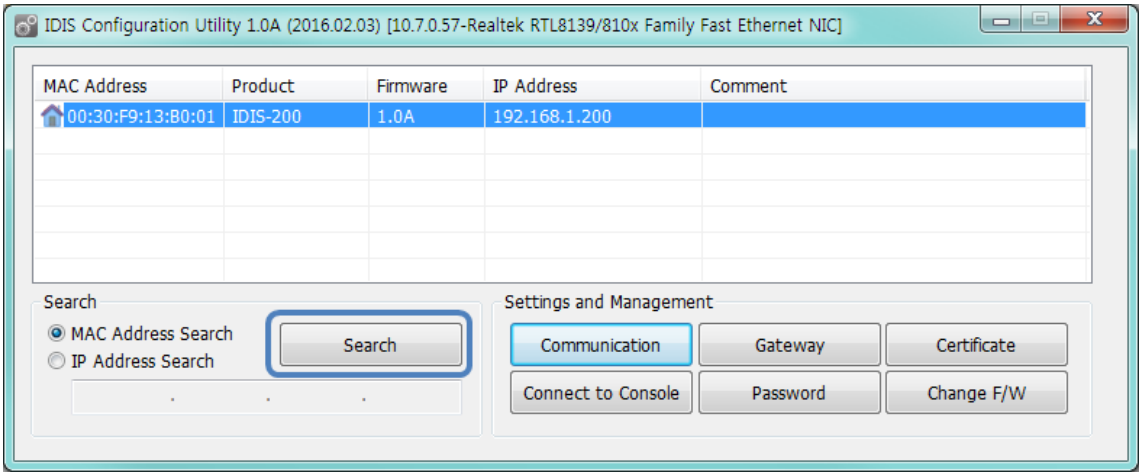

Figure 2-2 IDIS Manager

2.2.1 Communication settings

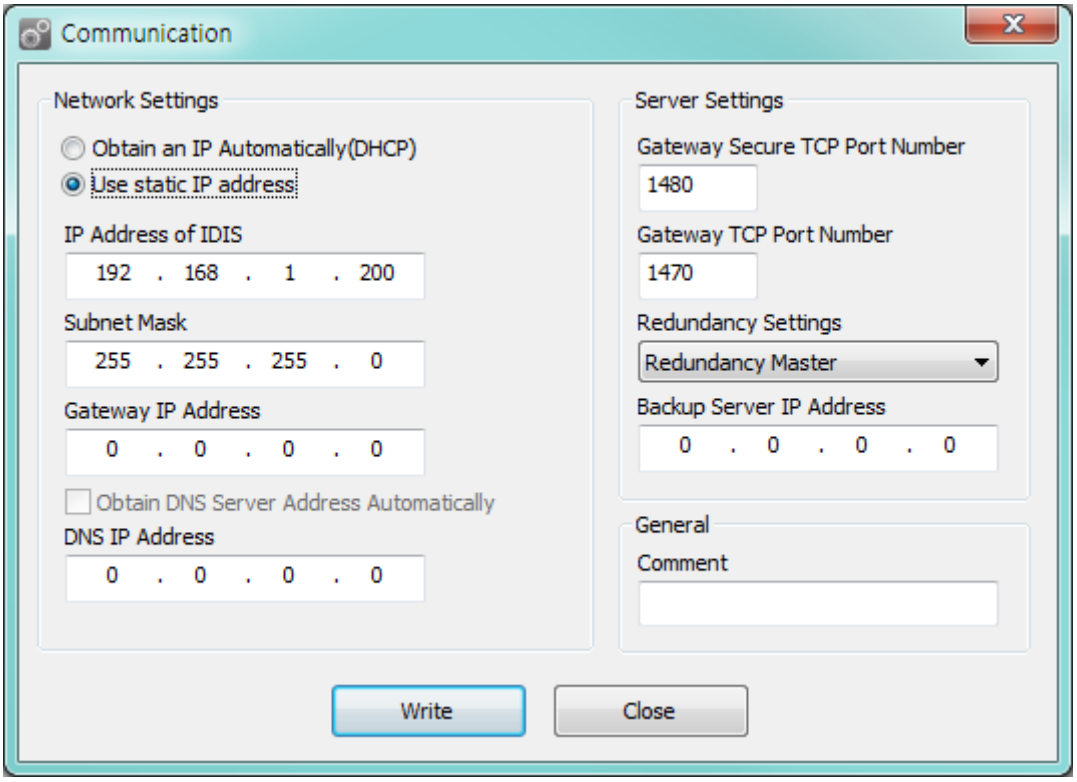

Figure 2-3 Communication settings

- Selecting the IP address allocation method

  Depending on your network environment, select "Obtain an IP Automatically (DHCP)" or "Use static IP address".

- IP Address of IDIS

  This is for the IP address of IDIS-200. It is used for Modbus/TCP server address.

- Subnet Mask

  A subnet mask should be set on this box.

- Gateway IP Address

  A gateway IP address of user's network should be set on this box. Gateway is required to connect with other network. If it is not correct, Internet or inter network communication will be not possible.

- DNS IP address

  This box is for an IP address of DNS server.

- Gateway Secure TCP Port Number

  This is TCP server-listening-port number for Modbus/TCP connection when securely communication(SSL) to Gateway.

- Gateway TCP Port Number

  This is TCP server-listening-port number for Modbus/TCP connection when communicating to Gateway without any secure protocols.

- Redundancy Settings

  Users can select either Master or Slave for redundant communication. There are 2 modes. One is Active mode that IDIS-200 receives data from Gateway, the other is Backup mode that receives backup data from active IDIS-200. If recent data is not received, mode will be changed from Active to Backup and vice versa. At the first boot, configurations of Master and Slave are defined as active mode and backup mode respectively.

- Backup Server IP Address

  In order to prevent the simultaneous activation of two devices, IDIS-200 (Master) connects to IDIS-200 of fixed address to check the operating status. Once it confirms the activation status, it forces to operate as backup mode.

- Comment

  This text box is for simple name of IDIS-200.

2.2.2 Gateway Settings

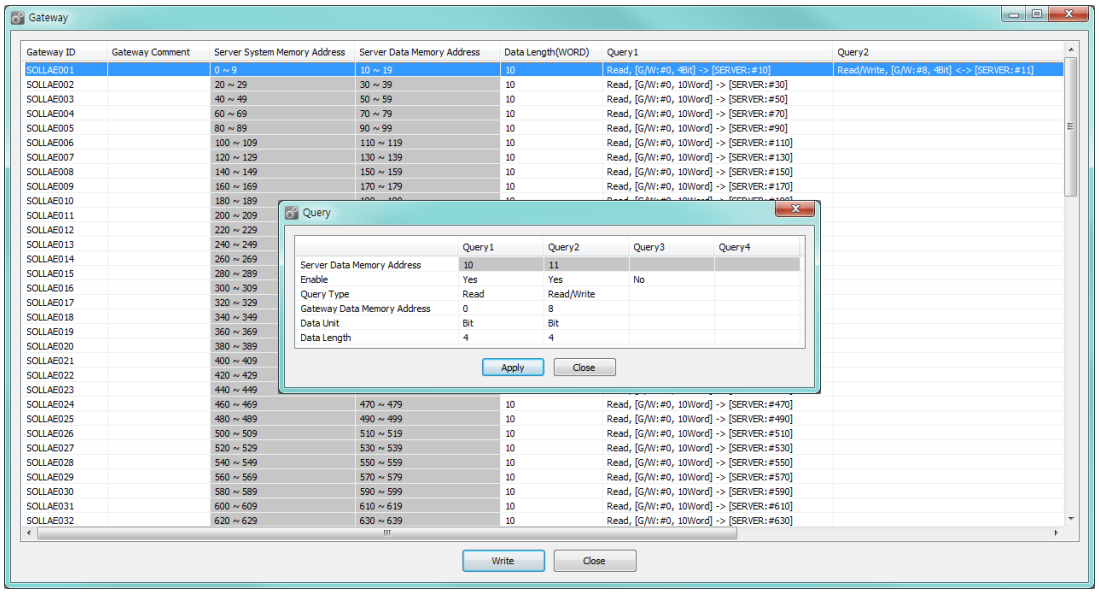

Figure 2-4 Gateway settings

- Gateway ID

  Specify the ID of the Gateway. The default value is SOLLAEXXX.

- Gateway Comment

  User can enter a short description of the Gateway.

- Server System Memory Address

  This is for System Memory address of IDIS-200. It is fixed at 10 words for each Gateway.

- Server Data Memory Address

  This is for Data Memory address of IDIS-200. Data from the Gateway is written in this area.

- Data Length(WORD)

  Assign data length. If the length is changed, system memory address and data memory address will be updated.

- Query 1~4

  If it needs several queries at the same server data memory area, it is available up to 4 queries.

- Server Data Memory Address

  It calculates the internal memory area of IDIS-200 accordance with the settings.

- Enable

  Select to enable or disable queries.

- Query Type

  Select Read or Read/Write.

- Gateway Data Memory Address

  Enter the input and output address of Gateway

- Data Unit

  Select Words or bits.

- Data Length

  This is for data length. The units of the data length changes depending on the selected data unit.

2.3 Configuration via Shell command

2.3.1 Configuration command

Command	Parameters		Description
env net	DHCP		Obtain an IP address automatically
	LOCAL IP		Local IP Address
	SUBNET MASK		Subnet Mask
	GATEWAY IP		Gateway IP Address
	NAME SERVER IP		Name Server IP Address
env mbus	HMI	SSL	SSL Secure Port for HMI (Yes: Enable, No: Disable)
		LOCAL PORT	Local Port for HMI (Modbus/TCP)
		XFER TIMEOUT	Timeout for TCP session (default: 31, Unit: seconds)
	Gateway	LOCAL PORT	Normal local port for Gateway (Modbus/TCP)
		SECURE PORT	Secure local port for Gateway (Modbus/TCP)
		POLL INTERVAL	Poll interval (default: 1, Unit: seconds)
		FAIL TIMEOUT	Communication fail time (default: 180, Unit: seconds)
		XFER TIMEOUT	Timeout for TCP session (default: 13, Unit: seconds)
	Redundancy	MASTER	Redundancy Master / Slave (Yes: Master, No: Slave)
		PEER IP ADDRESS	Backup Server IP Address
		PEER PORT	Redundancy Server Port Number (default: 5020)
		REDUNDANCY TIMEOUT	Timeout for operation state (default: 61, Unit: seconds)
env gate	Gateway Config.	Starting Number	Starting number to configure
		Quantity of Gateways	Quantity to configure
	Global	ID	Unique ID to distingusih Gateway

			(e.g.: SOLLAE001)
		COMMENT	Comment for Gateway
		IDIS ADDR	Starting Server Data Memory Address
		WORD COUNT	Data Length
	Query (1~4)	ENABLE	Enable sending query (Yes: Enable, No: Disable)
		WRITE ACCESS	Query Type (Yes: Write, No: Read)
		BIT ACCESS	Data Unit (Yes: Bit, No: Word)
		IDIS REF	Server Data Memory Address
		GATE REF	Gateway Data Memory Address
		READ COUNT	Data Length
env cmt	COMMENT		Comment of product
env pwd	PASSWORD		Password of product

Table 2-2 Shell command for configuration

2.3.2 Using TELNET

- Setting Network Area

Add or change the IP address of the network adapter on your PC like the following. In the menu of [Windows Control Panel] >> [Network Connections] >> [Properties of the Network Adapter – with right click of your mouse]. Then, you can see the properties of [Internet Protocol (TCP/IP). Click on the [Advanced..] button to add an IP Address like the figure below.

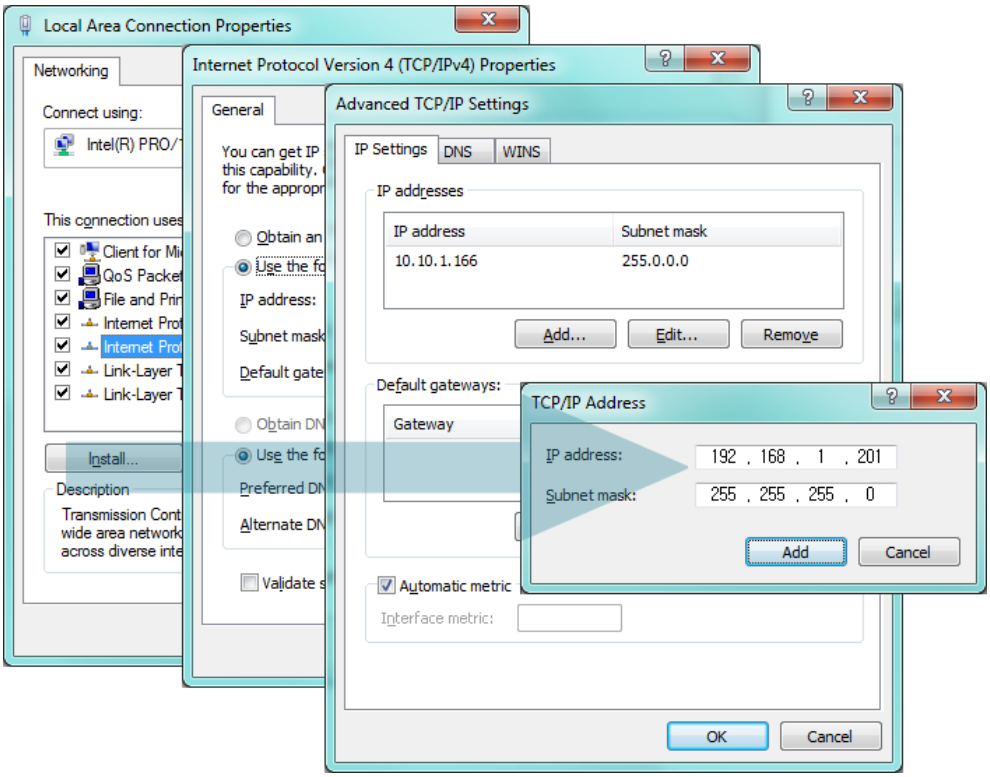

Figure 2-5 Adding / changing the IP address of users' PC

- Procedures

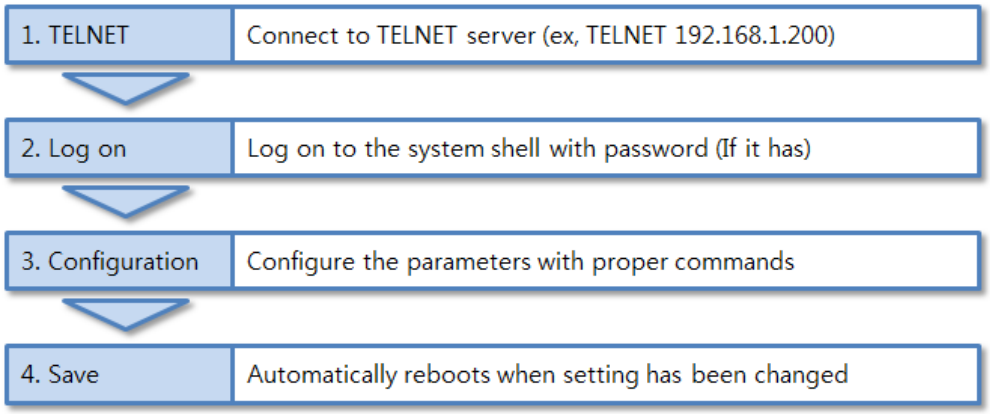

Figure 2-6 Procedures for configuration via TELNET

- How to use

① Run the command prompt (Start >> Run >> "cmd" command)

② TELNET connection: Enter "telnet [IDIS-200 IP address]" at Window command prompt

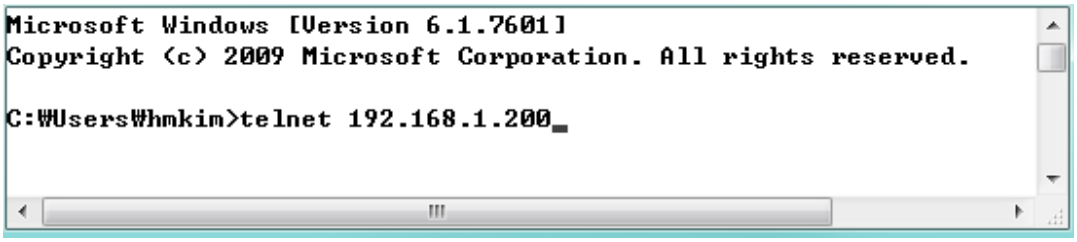

Figure 2-7 Try to make TELNET session

③ Log on via TELNET: Password is required if it is already set

Figure 2-8 Log on to IDIS-200 shell via TELNET

④ Configure the parameters with shell command

- Examples of Configuration

① Enter "[Command]" at Shell

Figure 2-9 Enter shell command for configuration

② Enter proper value to each parameters

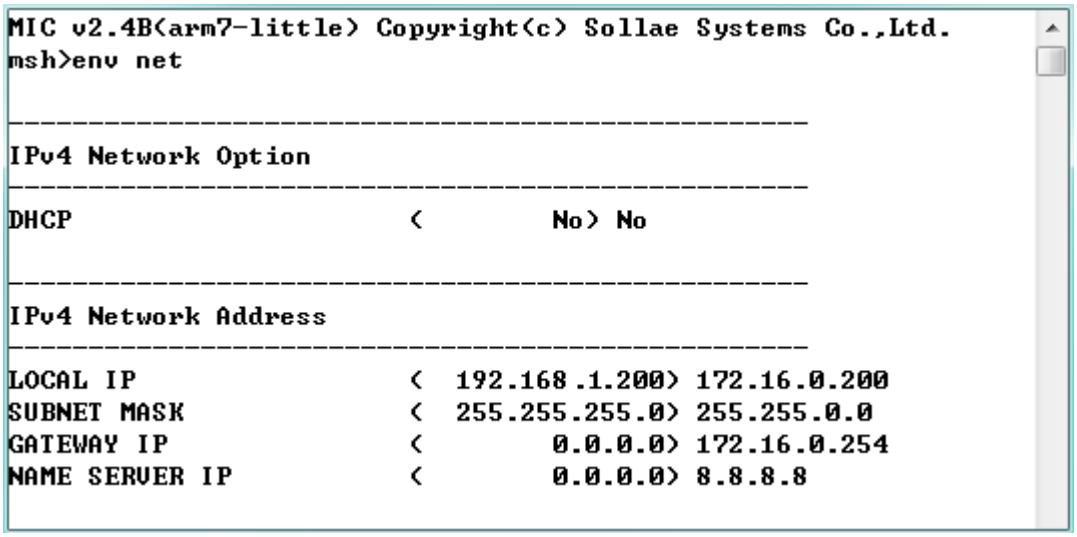

Figure 2-10 Configuration by TELNET

③ IDIS-200 will automatically reboot after user input is over.

2.3.3 Using Console

- Procedures

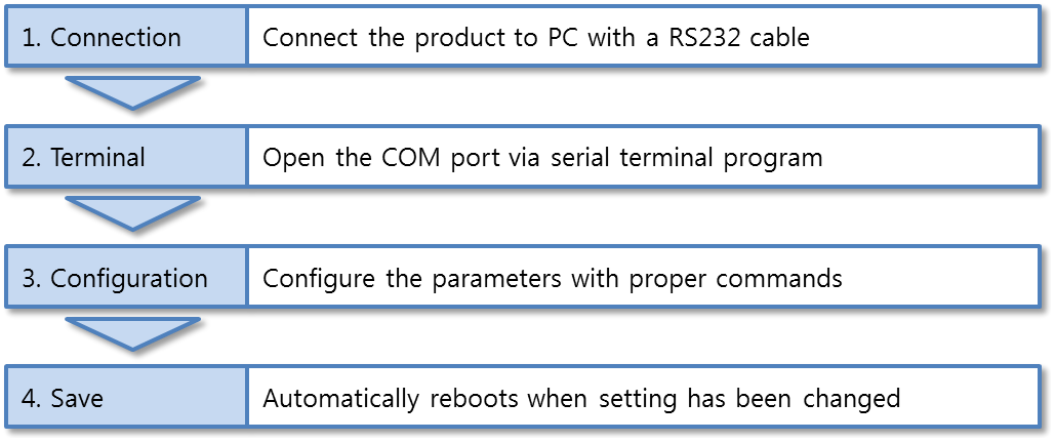

Figure 2-11 Procedures for configuration via console

The way of usage is the same with TELNET.

3 System Management

3.1 Upgrading Firmware

3.1.1 Firmware

Firmware is a type of software for IDIS-200 operation. If there are needs for adding function or fixing bugs, the firmware can be modified and released. We recommend users to use the latest firmware.

3.1.2 Process

- Downloading the latest released firmware

  Download the newest firmware file. We update our homepage when a new firmware is released. You can find it on our website.

- Run a TFTP client and ready to send the firmware file

  Run a TFTP client program. Click [Change F/W] button of IDIS Manager to upgrade firmware.

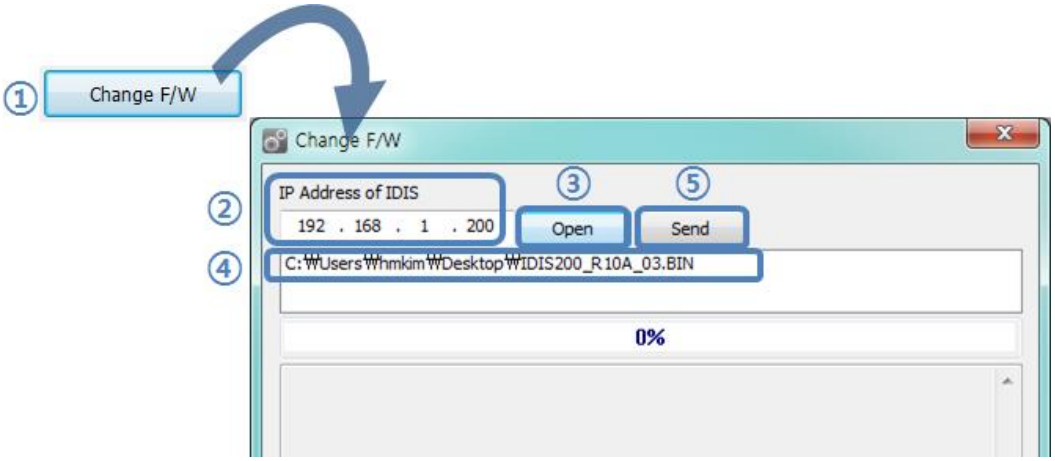

Figure 3-1 Running TFTP client

① Click the [Change F/W] button to run TFTP client
② Input the IP address of IDIS-200 to the [IP Address of IDIS] text box
③ Press the [Open] button and choose the firmware file
④ Check if the name and the path of the firmware file are correct
⑤ Click the [Send] button

⑥ Input the password

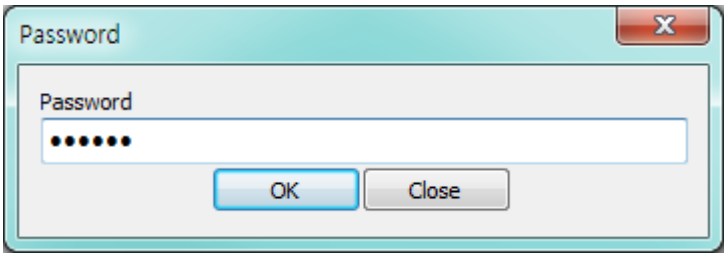

Figure 3-2 Password

☞ ***Default password is "sollae"***

⑦ Confirm the completed message

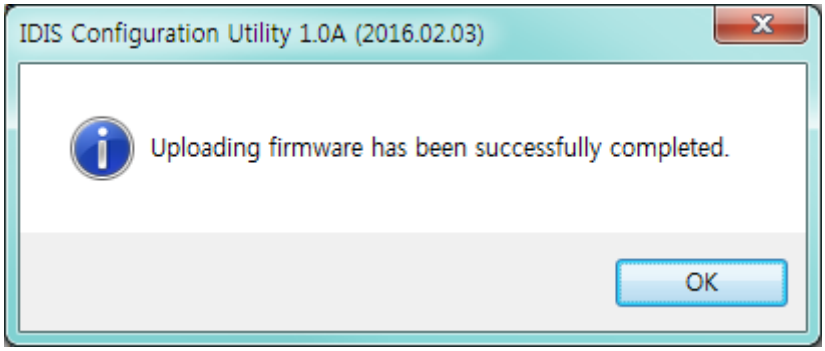

Figure 3-3 Sending firmware file

3.2 Status Monitoring through Telnet / Console

3.2.1 Network status monitoring

- "st net"

  This command displays current Ipv4 network states of all sessions.

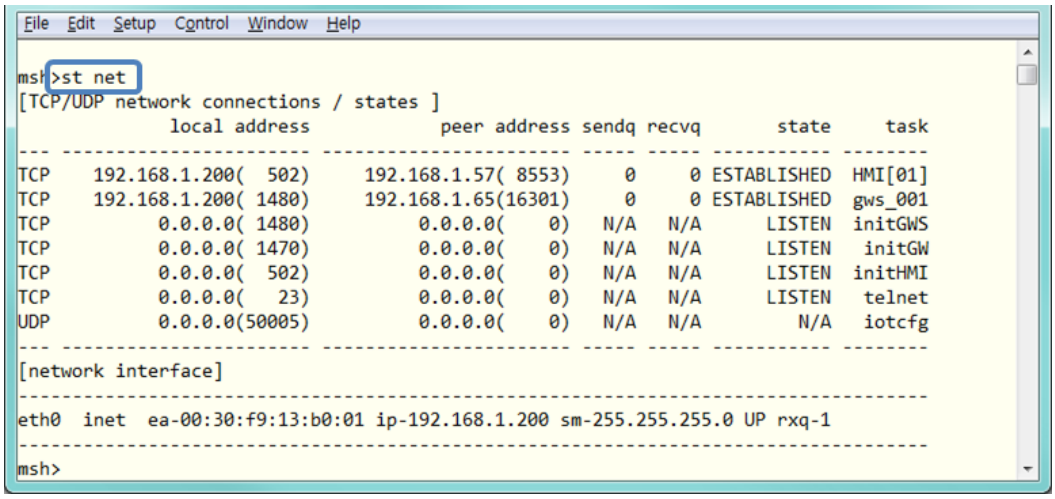

Figure 3-4 st net

3.2.2 Dump Registers

- "dr gate [gateway number]"

"dr gate" command shows gateway's Systems information and Data registers in the IDIS-200 memory.

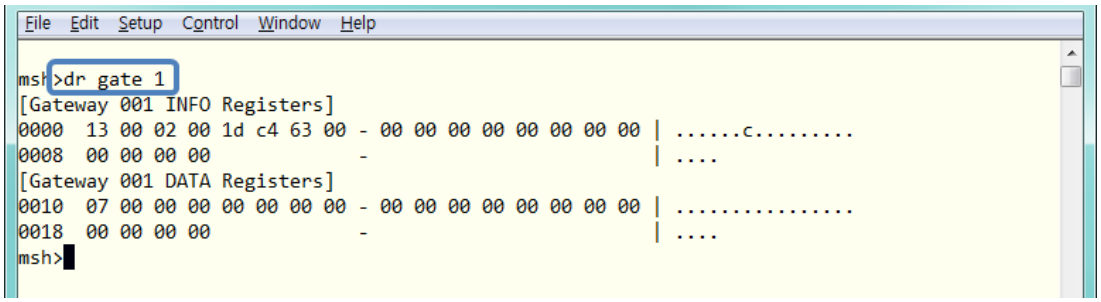

Figure 3-5 dr gate

- "dr free [start address] [length]"

  "dr free" command displays values of a specified length in the IDIS-200 memory.

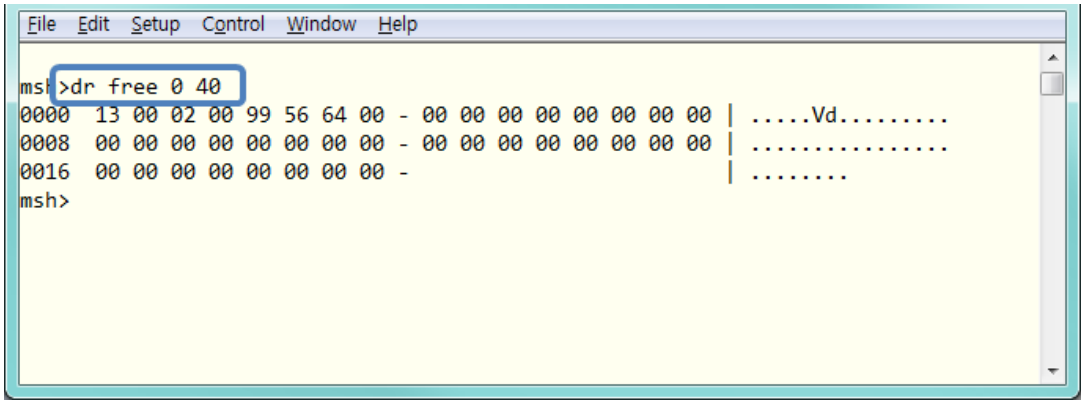

Figure 3-6 dr free

3.2.3 Reboot

- "reboot"

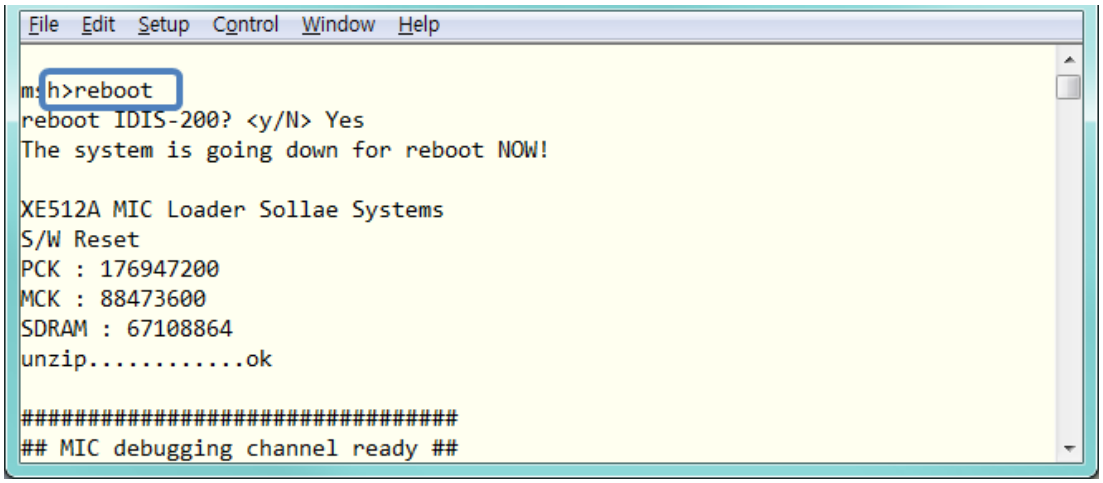

Figure 3-7 reboot

3.2.4 Status of IDIS-200

- "st env [start number] [quantity of gateway]"

  Query settings of each gateway are displayed.

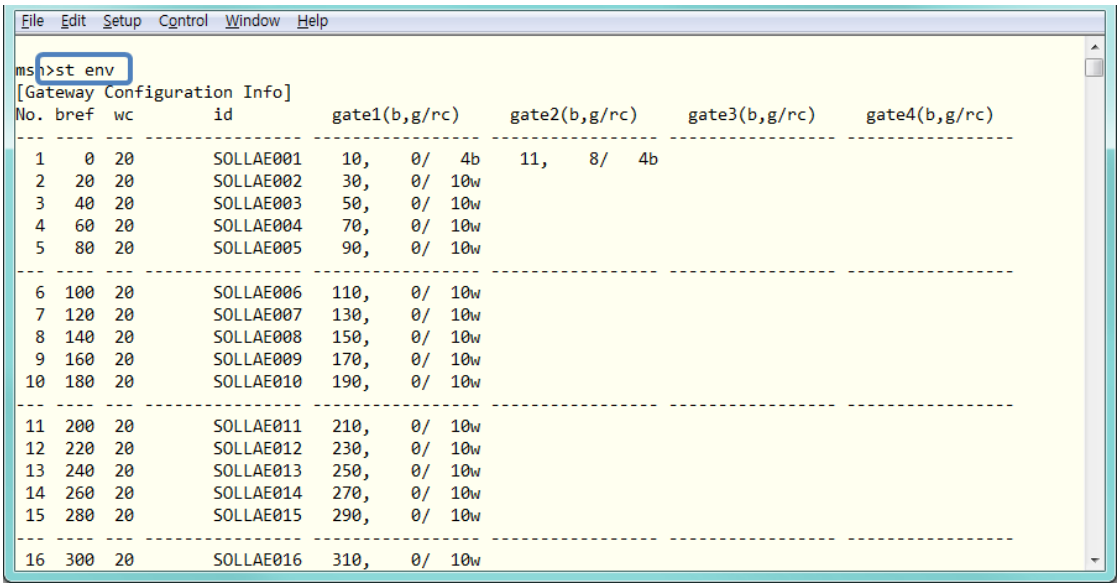

Figure 3-8 st env

- "st gate [start number] [quantity of gateway]"

  This command shows communication status and comments of specified gateway.

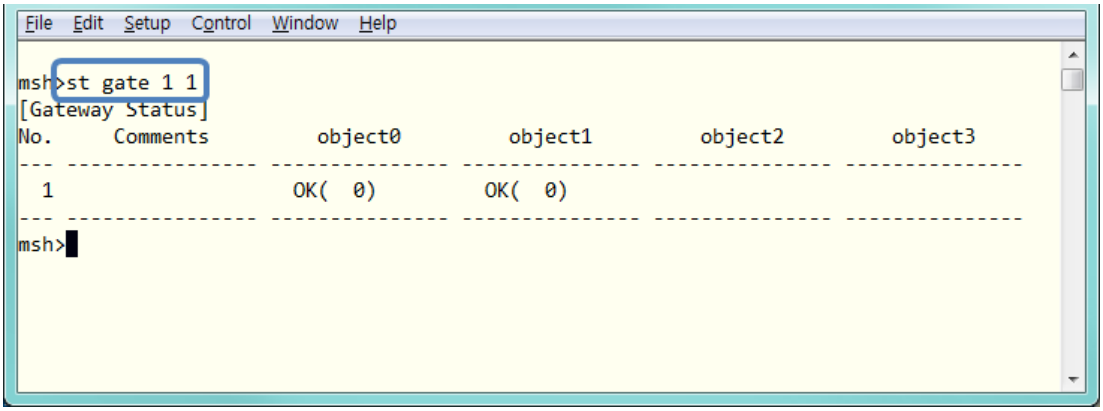

Figure 3-9 st gate

- "st mbus"

  "st mbus" command for status of redundancy.

  (ACT – redundancy Active mode, BACKUP – Backup mode)

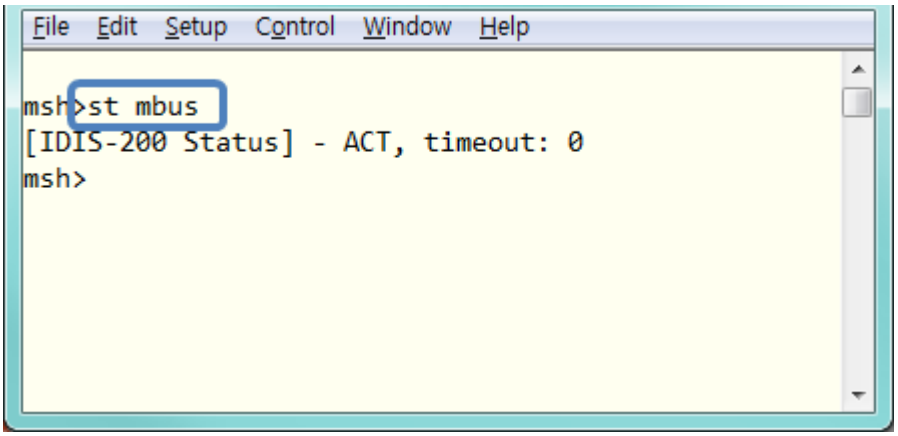

Figure 3-10 st mbus

3.3 Factory Reset

This function is to initialize all the environmental values to the factory default.

3.3.1 How to reset

Press FUNCTION button on the back of IDIS-200 over 5 seconds to reset.

3.3.2 Sequence of LED operation

① LINK On

② STS On

③ ACT On

④ HMI On

⑤ LINK, STS, ACT, HMI are blinks

4 Security functions

4.1 SSL

4.1.1 SSL (Secure Socket Layer)

SSL is cryptographic protocol that provides secure communication on the Internet. SSL works over TCP.

4.1.2 How to set SSL

When communicating with Gateway and HMI, SSL protocol can be set to use. For SSL communication, the certification is required.

- Gateway Secure TCP Port Number

  For SSL communication with Gateway, click [Communication] button of IDIS Manager.

  Users can change the port number used for SSL at [Gateway Secure TCP Port Number]. Default value is 1480.

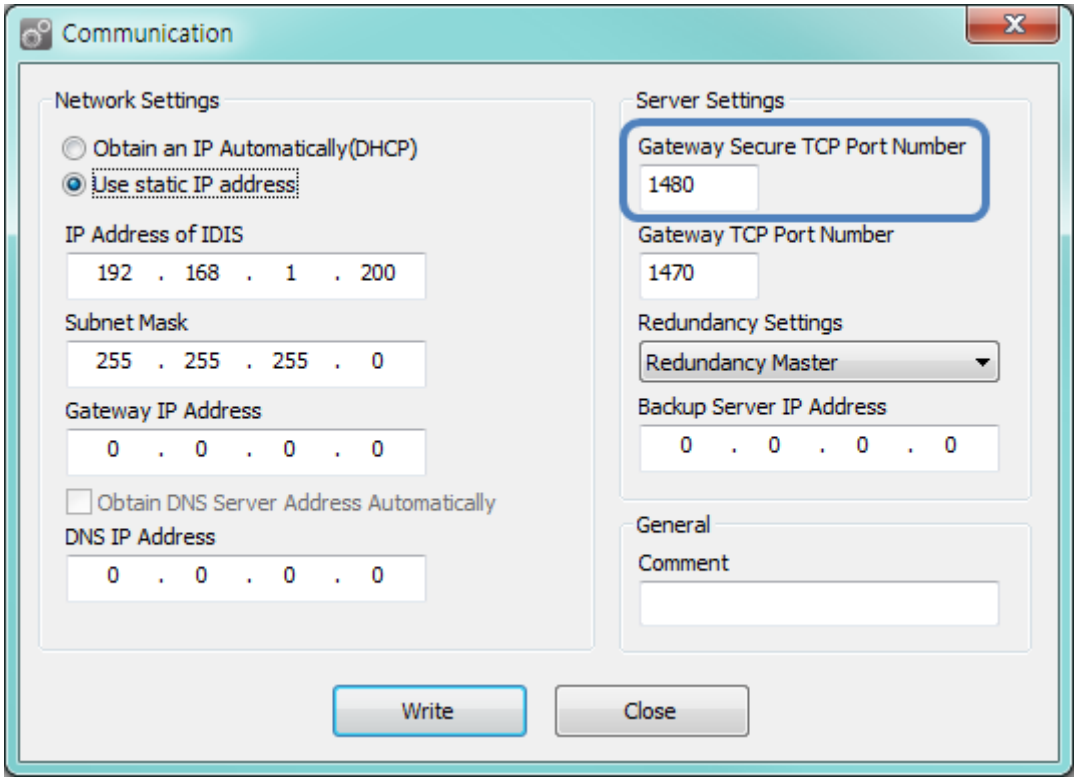

Figure 4-1 SSL settings for Gateway

- Secure port number for HMI

IDIS-200 communicates using SSL protocol with HMI, It can be set through console/telnet.

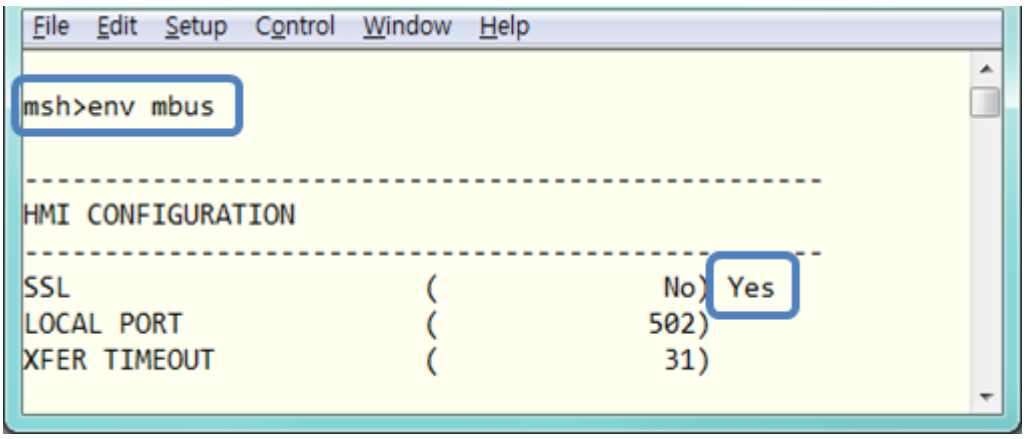

Figure 4-2 SSL settings for HMI

4.1.3 How to make a SSL certification

- Click the [Certificate] button in IDIS Manager.

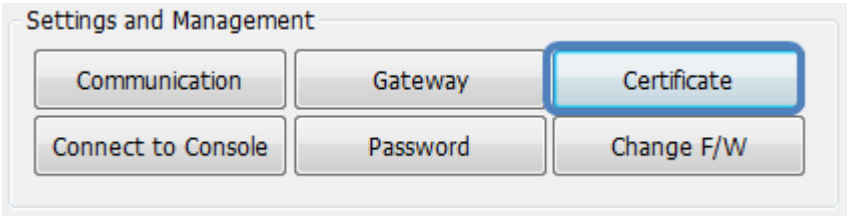

Figure 4-3 Create the certification

- Choose the [Write self-signed certificate]

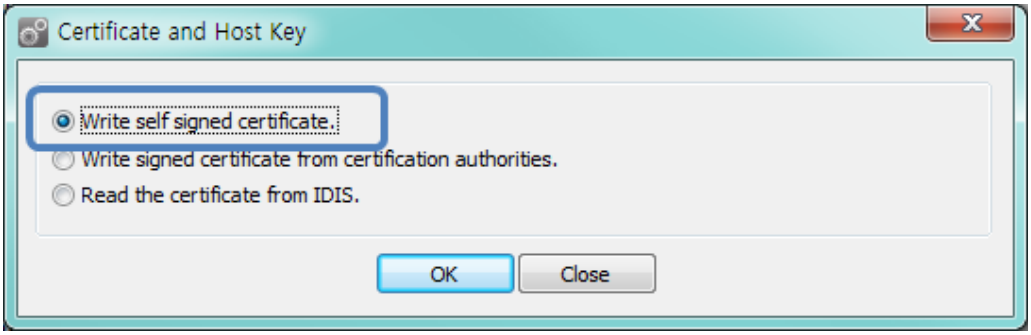

Figure 4-4 Certificate and host key

- Input the key length and information in [Self signed certificate] and click [OK] button.

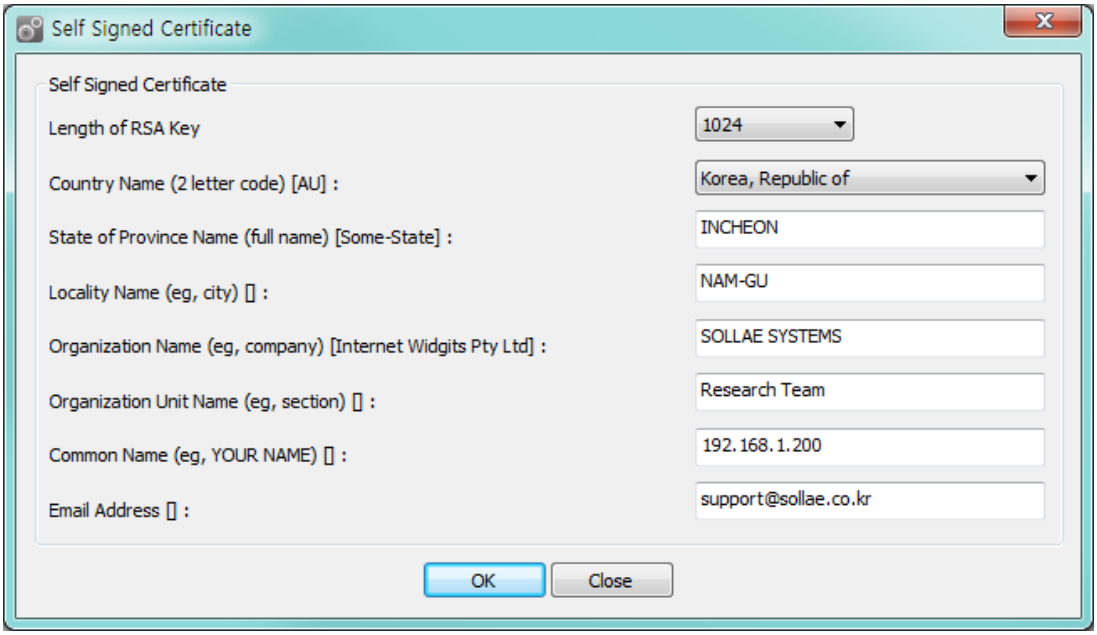

Figure 4-5 Input the information

- Check the information of certification.

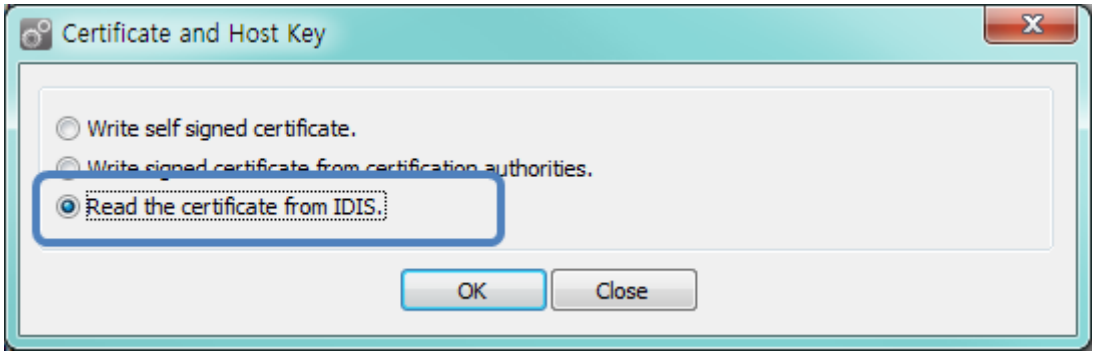

Figure 4-6 Certification information (1)

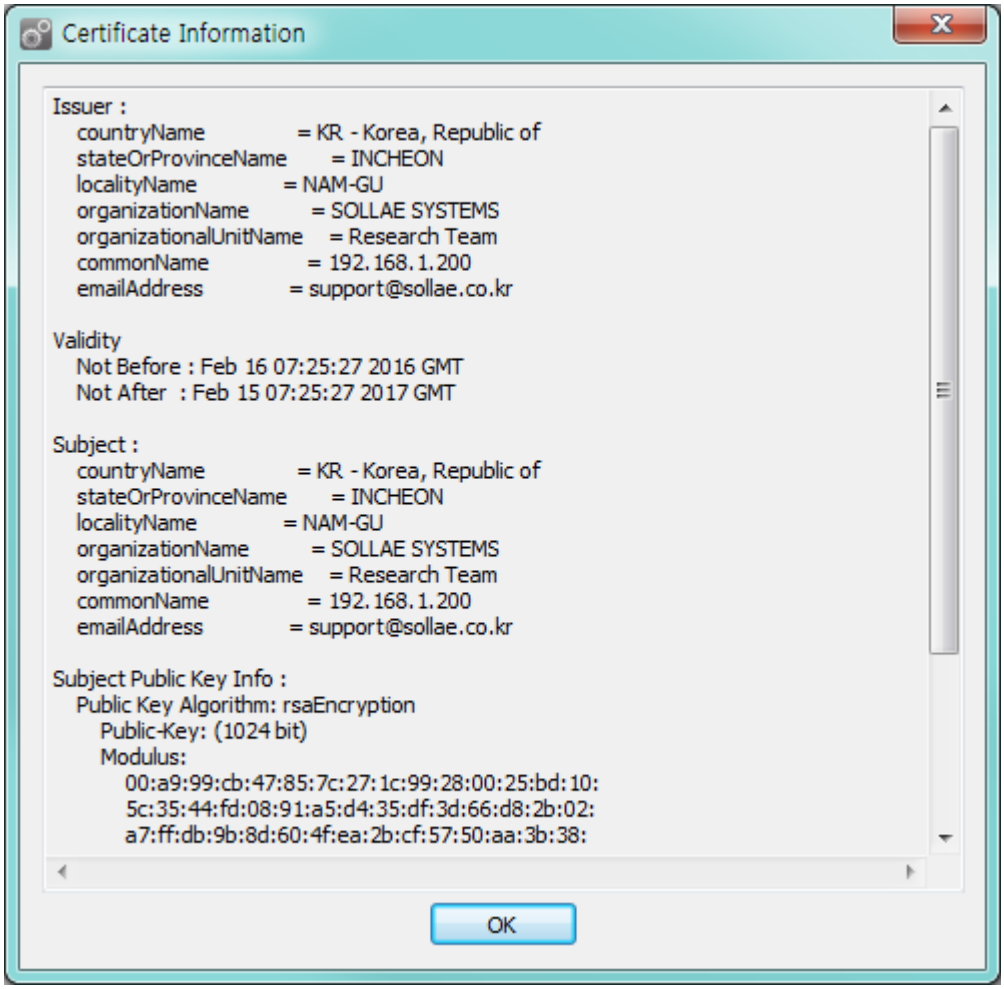

Figure 4-7 Certification information (2)

4.1.4 Restriction

New certification is required for new IP address. To make the communication available, the communication host must set the SSL.

4.2 Setting password

A password can be used for protecting IDIS-200 from TELNET login or changing environmental parameters by unqualified hosts. The length is 4~64 character of Alphabet or number.

☞ ***Default password is "sollae".***

☞ ***If user forgets the password, factory reset must be done, and then all the environmental variables will be reset.***

5 Troubleshoot

5.1 Basic Problem

5.1.1 Check System LED

Name	Status	Check
PWR	OFF	Check the power cord connection. Try to plug the power cord into another outlet.
LINK	OFF	Check the LAN cable connection. Also, check the LAN port on an opposite side of the cable.
STS	Irregular ON/OFF	If this LED blinks once or four times at a time, the system is most likely to have problems. Contact our technical support team.
ACT	OFF	Check if the ACT LED on the redundancy IDIS-200 is ON. IDIS-200 keeps the current operation state (active/backup) only when it receives the latest data from the Gateway or the redundancy IDIS-200.
HMI	OFF	Check if the ACT LED is ON. (If it is,) please refer to chapter "5.2 Checking communication with HMI".

Table 5-1 System LED status according to symptoms

5.2 Checking communication with HMI

5.2.1 Network Configuration

Check the network configuration between IDIS-200 and the host that HMI is operated. Check if IDIS-200 is configured with proper parameters such as local IP address, subnet mask, gateway IP address, name server IP address, etc. PING test is a simple method to confirm the network configurations. Note that PING test is now available in some secure network.

5.2.2 IDIS-200 Operation State (Active mode / Backup mode)

IDIS-200 should be in the active operation state (ACT LED is ON) to communicate with HMI. Using the shell command (st mbus) allows to inspect without LED visual check.

5.2.3 TCP connection with HMI

Check if the peer IP address and the peer port number configuration is set the same as parameters of IDIS-200.

5.3 Checking communication with Gateway

5.3.1 Communication fail with Gateway

Use shell command to check whether the communication between IDIS-200 and Gateway has been failed. Then, follow the description of the "Table 4-2 Checklist when communication is fail".

Checking communication with Gateway	Checklist and Description
Normal communication	● Check HMI Please refer to chapter "5.2 Checking communication with HMI"
	● Communication status address Check the communication status address configuration of HMI (read address) is same to IDIS-200's one (save address).
Communication error	● Network Connection and Firewall Check if the TCP port (ex: 1470, 1480) for the communication between IDIS-200 and Gateway is reachable from external network. An access to these port can be denied by a firewall policy in some secure network environment. In this case, users should ask the person in charge of those network to allow an approach to these port.
	● ID Configuration Check the ID configuration of HMI is same as that of IDIS-200. IDIS-200 use a unique ID to identify Gateway.
	● Configuration for Gateway Check if sending read/write query is enabled. Check also other configurations for Gateway. Make sure the reference address and word count for Gateway is properly inputted.
	● Check remote Gateway Check the network configuration between IDIS-200 and Gateway. (If it is okay,) also check network configurations of Gateway. Make sure the peer IP address and the peer port is same as IDIS-200's one.

Table 5-2 Checklist when communication is fail

5.3.2 When Gateway data is abnormal

If Gateway data is abnormal but the communication status is good, follow the below description.

Checklist	Description
HMI tag configuration	Check if HMI tag configuration for reading Gateway data is proper to the IDIS-200's environment parameters.
Update time	When communication with Gateway is not successful, IDIS-200 does NOT change its communication status to the fail state until the communication fail timeout is expired. Check the last updated time of the Gateway data. If it indicates the past than Gateway poll interval, check communication with Gateway. Please refer to "Table 5-2 Checklist when communication is fail".
IDIS-200 Configuration	Check if read address configuration for Gateway is proper. For example, Gateway would send normal response data even though the data of this address is not necessary.
Gateway Device	Check if I/O devices or sensors connected to Gateway work well.

Table 5-3 Checklist when Gateway data is abnormal

6 Related Materials

6.1 Documents

Documents can be found on our homepage or included DVD in your package.

- Datasheet
- Modbus/TCP

6.2 Applications for a Smart Phone

- TCP/IP Console (for iOS)
- TCP Client (for Android)

7 Technical Support and Warranty

7.1 Technical Support

If you have any question regarding to the operation of the product, please visit Customer Support FAQ corner and the message board on Sollae Systems' web site or send us an email at the following address:

- E-mail: support@eztcp.com
- Website Address for Customer Support: http://www.eztcp.com/en/support/

7.2 Warranty

7.2.1 Refund

Upon the customer's request to refund the product within two weeks after purchase, Sollae Systems will refund the product.

7.2.2 Free Repair Services

For product failures occurring within 2 years after purchase, Sollae Systems provides free repair services or product exchange. However, if the product failure is due to user's fault, repair service fees will be charged or the product will be replaced at user's expense.

7.2.3 Charged Repair Services

For product failures occurring after the warranty period (2 years) or resulting from user's fault, repair service fees will be charged and the product will be replaced at user's expense.

8 Precaution and Exemption from Liability

8.1 Precaution

- Sollae Systems is not responsible for product failures occurring due to user's alternation of the product.
- Specifications of the product are subject to change without prior notice for performance improvement.
- Sollae Systems does not guarantee successful operation of the product if the product was used under conditions deviating from the product specifications.
- Reverse engineering of firmware and applications provided by Sollae Systems is prohibited.
- Use of firmware and applications provided by Sollae Systems for purposes other than those for which they were designed is prohibited.
- Do not use the product in an extremely cold or hot place or in a place where vibration is severe.
- Do not use the product in an environment in which humidity is high or a lot of oil exists.
- Do not use the product where there is caustic or combustible gas.
- Sollae Systems does not guarantee normal operation of the product under the conditions a lot of noise exists.
- Do not use the product for a purpose that requires exceptional quality and reliability relating to user's injuries or accidents – aerospace, aviation, health care, nuclear power, transportation, and safety purposes.
- Sollae Systems is not responsible for any accident or damage occurring while using the product.

8.2 Exemption from Liability

8.2.1 English version

In no event shall Sollae Systems Co., Ltd. and its distributors be liable for any damages whatsoever (including, without limitation, damages for loss of profit, operating cost for commercial interruption, loss of information, or any other financial loss) from the use or inability to use the IDIS-200 even if Sollae Systems Co., Ltd. or its distributors have been informed of such damages.

The IDIS-200 is not designed and not authorized for use in military applications, in nuclear applications, in airport applications or for use in applications involving explosives, or in medical applications, or for use in security alarm, or for use in a fire alarm, or in applications involving elevators, or in embedded applications in vehicles such as but not limited to cars, planes, trucks, boats, aircraft, helicopters, etc..

In the same way, the IDIS-200 is not designed, or intended, or authorized to test, develop, or be built into applications where failure could create a dangerous situation that may result in financial losses, damage to property, personal injury, or the death of people or animals. If you use the IDIS-200 voluntarily or involuntarily for such unauthorized applications, you agree to subtract Sollae Systems Co., Ltd. and its distributors from all liability for any claim for compensation.

Sollae Systems Co., Ltd. and its distributors entire liability and your exclusive remedy shall be Sollae Systems Co., Ltd. and its distributors option for the return of the price paid for, or repair, or replacement of the IDIS-200.

Sollae Systems Co., Ltd. and its distributors disclaim all other warranties, either expressed or implied, including, but not limited to, the implied warranties of merchantability and fitness for a particular purpose, with respect to the IDIS-200 including accompanying written material, hardware and firmware.

8.2.2 French version

- Documentation

La documentation du boîtier IDIS-200 est conçue avec la plus grande attention. Tous les efforts ont été mis en œuvre pour éviter les anomalies. Toutefois, nous ne pouvons garantir que cette documentation soit à 100% exempt de toute erreur. Les informations présentes dans cette documentation sont données à titre indicatif. Les caractéristiques techniques peuvent changer à tout moment sans aucun préavis dans le but d'améliorer la qualité et les possibilités des produits.

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- Rappel sur l'évacuation des équipements électroniques usagés

Le symbole de la poubelle barré présent sur le boîtier IDIS-200 indique que vous ne pouvez pas vous débarrasser de ce dernier de la même façon que vos déchets courants. Au contraire, vous êtes responsable de l'évacuation du boîtier IDIS-200 lorsqu'il arrive en fin de vie (ou qu'il est hors d'usage) et à cet effet, vous êtes tenu de le remettre à un point de collecte agréé pour le recyclage des équipements électriques et électroniques usagés. Le tri, l'évacuation et le recyclage séparés de vos équipements usagés permettent de préserver les ressources naturelles et de s'assurer que ces équipements sont recyclés dans le respect de la santé humaine et de l'environnement. Pour plus d'informations sur les lieux de collecte des équipements électroniques usagés, contacter votre mairie ou votre service local de traitement des déchets.

9 Revision History

Date	Version	History	Author
2016.03.18	1.0	○ Initial release	Amy Kim
2016.05.25	1.1	○ Changed default password	Amy Kim