

GW6L-B0(L256)

PROFINET Protocol Gateway Module

User Manual



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CONTENTS

| 1 Product Instruction | 1 |
|---|----|
| 1.1 Product Overview | 1 |
| 1.2 Product Characteristics | 1 |
| 2 Designation Rules | 2 |
| 2.1 Gateway Designation Rules | 2 |
| 2.2 Gateway Suite Designation Rules | 3 |
| 2.3 List of commonly used modules/kits | 4 |
| 3 Product Parameters | 5 |
| 3.1 General parameter | 5 |
| 3.2 Power supply parameters | 5 |
| 3.3 Interface parameter | 6 |
| 4 Panel | 7 |
| 4.1 Product structure | 7 |
| 4.2 Application | 8 |
| 4.3 Indicator light function | 8 |
| 5 Installation and uninstall | 10 |
| 5.1 Overall Dimension | 10 |
| 5.2 Installation Guide | 12 |
| 5.3 Installation and uninstall steps | 13 |
| 5.4 Installation Diagram | 14 |
| 6 Wiring | 18 |
| 6.1 wiring terminal | 18 |
| 6.2 Wiring instructions and requirements | 18 |
| 6.3 wiring diagram | 21 |
| 7 Operation | 22 |
| 7.1 Description of process data | 22 |
| 7.2 Module Configuration Description | 23 |
| 7.2.1 GW6L-A0B0(L256) in TwinCAT3 and TIA Portal V17 Software Environment | 23 |
| 7.2.1.1 Preliminary | |
| 7.2.1.2 Communication connection in TwinCAT3 software | 24 |

| 7.2.1.3 Communication connection in TIA Portal V17 software | 29 |
|--|----|
| 7.2.1.4 data interaction | 41 |
| 7.2.2 GW6L-B0C0(L256) in TIA Portal V17 and KV STUDIO software environment | 44 |
| 7.2.2.1 preliminary | 44 |
| 7.2.2.2 Communication connection in TIA Portal V17 software | 45 |
| 7.2.2.3 Application in KV STUDIO software environment | 58 |
| 7.2.2.4 data interaction | 74 |

Product Instruction

1.1 Product Overview

The GW6L-B0(L256) is a Slice PROFINET protocol conversion gateway module. As a slave module, the GW6L-B0(L256) can be combined with other gateway slave modules to form a gateway kit. Different combinations of gateway kits are able to bi-directionally transmit 256-byte IO data between two masters, such as EtherCAT, PROFINET, EtherNet/IP, CC-Link, PROFIBUS-DP, DeviceNet masters, etc., which has the advantages of high real-time performance, optimized system configuration, simplified on-site wiring, and improved system reliability. It realizes the communication demand of connecting different networks quickly and efficiently.

1.2Product Characteristics

- Supports interconversion of multiple types of protocols EtherCAT, PROFINET, EtherNet/IP, CC-Link, PROFIBUS-DP, DeviceNet in a two-by-two arrangement.
- Supports bi-directional transfer of IO data between two protocols The data interaction length supports 256 bytes.
- small volume
 - Compact and small footprint.
- easy diagnosis

Innovative channel indicator design, close to the channel, channel status at a glance, easy to detect and maintain.

• easy configuration

Simple configuration and support for mainstream EtherCAT, PROFINET and EtherNet/IP masters.

- easy installation
 - DIN 35 mm standard rail mounting

Adopts pop-up terminals and standard RJ45 network interface, wiring is convenient and fast.

2 Designation Rules

2.1 Gateway Designation Rules

$\frac{\mathbf{GW}}{(1)} \underbrace{\stackrel{\mathbf{6}}{(2)}}_{(2)} \underbrace{\stackrel{\mathbf{L}}{(3)}}_{(4)} \underbrace{\stackrel{\mathbf{B}}{(5)}}_{(6)} \underbrace{(\mathbf{L256})}_{(6)}$

| Number | Meaning | Description | | |
|---------------|----------------|--------------------------------|--|--|
| (1) | Gateway | GW: Gateway | | |
| | Abbreviations | | | |
| (2) | Product | 6: Slice | | |
| | Series | | | |
| (3) | Gateway | L: Limited length version | | |
| | Versions | U: Universal Universal version | | |
| | | E: Extended | | |
| (4) | bus protocol | A: EtherCAT | | |
| | | B: PROFINET | | |
| | | C: EtherNet/IP | | |
| | | D: CC-Link | | |
| | | E: DeviceNet | | |
| | F: PROFIBUS-DP | | | |
| G: Modbus TCP | | G: Modbus TCP | | |
| | | H: CANopen | | |
| | | I: CC-Link IE Field Basic | | |
| | | J: MECHATROLINK | | |
| (5) | Module Type | 0: Slave module | | |
| | | 1: Master Module | | |

(6) form L256: Data interaction length 256 bytes

2.2 Gateway Suite Designation Rules

$\frac{\mathbf{GW}}{(1)} \underbrace{{}^{\mathbf{6}}_{(2)}}_{(2)} \underbrace{{}^{\mathbf{5}}_{(3)}}_{(4)} \underbrace{{}^{\mathbf{6}}_{(5)}}_{(6)} \underbrace{{}^{\mathbf{6}}_{(7)}}_{(7)} \underbrace{{}^{\mathbf{(L256)}}_{(8)}}_{(8)}$

| Number | Meaning | Description | | | |
|--------|--------------------------|--------------------------------|--|--|--|
| (1) | Gateway Abbreviations | GW: Gateway | | | |
| (2) | Product Series | 6: Slice | | | |
| (3) | Gateway | L: Limited length version | | | |
| | Versions | U: Universal Universal version | | | |
| | | E: Extended | | | |
| (4) | bus protocol | A: EtherCAT | | | |
| | | B: PROFINET | | | |
| | | C: EtherNet/IP | | | |
| | | D: CC-Link | | | |
| | | E: DeviceNet | | | |
| | | F: PROFIBUS-DP | | | |
| | | G: Modbus TCP | | | |
| | | H: CANopen | | | |
| | | : CC-Link IE Field Basic | | | |
| | | J: MECHATROLINK | | | |
| (5) | Module Type | 0: Slave module | | | |
| | | 1: Master Module | | | |
| (6) | bus protocol | A: EtherCAT | | | |
| | B: PROFINET | | | | |
| | | C: EtherNet/IP | | | |
| | | D: CC-Link | | | |
| | | E: DeviceNet | | | |
| | | F: PROFIBUS-DP | | | |
| | | G: Modbus TCP | | | |
| | | H: CANopen | | | |
| | | I: CC-Link IE Field Basic | | | |
| | | J: MECHATROLINK | | | |
| (7) | Module Type | 0: Slave module | | | |
| | | 1: Master Module | | | |

(8)

comment form | L256: Data inter

L256: Data interaction length 256 bytes

2.3 List of commonly used modules/kits

| Model | Product Description |
|-----------------|---|
| GW6L-A0(L256) | Slice Gateway EtherCAT Slave Module (fixed length 256 bytes) |
| GW6L-B0(L256) | Slice Gateway PROFINET Slave Module (fixed length 256 bytes) |
| GW6L-C0(L256) | Slice Gateway EtherNet/IP Slave Module (fixed length 256 bytes) |
| GW6L-D0(L256) | Slice Gateway CC-Link Slave Module (fixed length 256 bytes) |
| GW6-P20HM | Slice Gateway Power Modules |
| GW6-CVR | Slice Gateway Terminal Cover |
| GW6L-A0B0(L256) | Slice Gateway EtherCAT Slave to PROFINET Slave Kit (fixed length 256 |
| | bytes) |
| GW6L-B0B0(L256) | Slice Gateway PROFINET Slave to PROFINET Slave Kit (fixed length 256 |
| | bytes) |
| GW6L-B0C0(L256) | Slice Gateway PROFINET Slave to EtherNet/IP Slave Kit (fixed length 256 |
| | bytes) |
| GW6L-B0D0(L256) | Slice Gateway PROFINET Slave to CC-Link Slave Kit (fixed length 256 |
| | bytes) |

Note: The gateway kit contains gateway power module \times 1, gateway module \times 2, and gateway terminal cover \times 1.

3 Product Parameters

3.1 General parameter

| General technical parameters | | | | |
|------------------------------|----------------------------------|--------------------|--|--|
| Size | Power Module | 106 x 61 x 22 mm | | |
| | GW6-P20HM | | | |
| | Gateway Module | 106 x 61 x 25.7 mm | | |
| | GW6L-B0(L256) | | | |
| | Terminal cover GW6-CVR | 106 x 61 x 7.7 mm | | |
| Weights | Power Module | 110 g | | |
| | GW6-P20HM | | | |
| | Gateway Module | 80 g | | |
| | GW6L-B0(L256) | | | |
| | Terminal cover GW6-CVR 20 g | | | |
| Operating temperature | -10°C~+60°C | | | |
| Storage temperature | -20°C~+75°C | | | |
| Relative humidity | 95%, non-condensing | | | |
| Protection class | IP20 | | | |
| Installation | DIN 35 mm standard rail mounting | | | |

3.2 Power supply parameters

| Power supply parameters | | |
|-------------------------|----------------|------------------|
| Power Module | Operating | 24 VDC (18V~30V) |
| GW6-P20HM | power | |
| | output voltage | 5 VDC |
| | Output Current | 2 A |
| Gateway Module | Operating | 5 VDC |
| GW6L-B0(L256) | power | |

| Operating Current | 400 mA |
|----------------------|--------|
| power (output) | 2 W |

3.3 Interface parameter

| PROFINET interface | parameters |
|---------------------------|--------------------------------------|
| Product model | GW6L-B0(L256) |
| Bus protocol | PROFINET |
| Data transmission | Ethernet/PROFINET CAT5 cable |
| medium | |
| Transmission | ≤100 m (station to station distance) |
| distance | |
| Transmission rate | 100 Mbps |
| Bus interface | 2 x RJ45 |
| Process data | 256 Bytes |
| volume: downlink | |
| Process data | 256 Bytes |
| volume: Uplink | |

4 Panel

4.1 Product structure

Name of each part of the product



4.2 Application

Gateway kit (power module + gateway module 1 + gateway module 2 + terminal cover)

Take the GW6L-B0C0(L256) gateway kit as an example, the application method is shown in the following figure.



4.3 Indicator light function

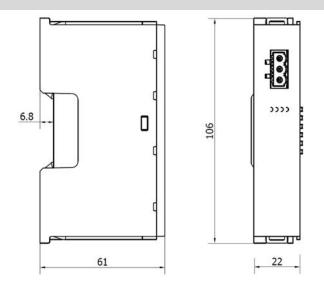
| Power Modu | Power Module Identification and Indicator Lights | | | |
|------------|--|-------|----------|---|
| Name | Markings | Color | State | State Description |
| 5V power | Р | GREEN | ON | Working power supply is normal |
| indicator | | | FLASHING | 80% overload, cut off power to back-end |
| | | | | loads |
| | | | OFF | The product is not powered or the power |
| | | | | supply is abnormal |
| Load | 0 | RED | OFF | Not overloaded |
| indicator | | | ON | Load up to 90% |
| | | | FLASHING | 80% overload, cut off power to back-end |
| | | | | loads |

| Gateway Module Logo and Indicator | | | | |
|-----------------------------------|----------|--------|----------|--|
| Name | Markings | Color | State | State Description |
| Power | Р | GREEN | ON | Working power supply is normal |
| indicator | | | OFF | The product is not powered or the power supply is abnormal |
| System | L | GREEN | ON | Data conversion interactions are normal |
| Indicator Lights | | | OFF | Data conversion interaction exception |
| warning | В | RED | OFF | Profinet bus parameters are set properly. |
| indicator | | | FLASHING | Profinet bus parameters not set or |
| | | | | abnormal |
| Operation | R | GREEN | ON | The system is functioning normally |
| status indicator | | | OFF | System operational anomalies |
| Network Port | IN | ORANGE | FLASHING | Connection established with data |
| Indicator | | | | interaction |
| | | | OFF | No data interaction or exception |
| | | GREEN | ON | Establish a network connection |
| | | | OFF | No network connection established or abnormal |
| | OUT | ORANGE | FLASHING | Connection established with data |
| | | | | interaction |
| | | | OFF | No data interaction or exception |
| | | GREEN | ON | Establish a network connection |
| | | | OFF | No network connection established or abnormal |

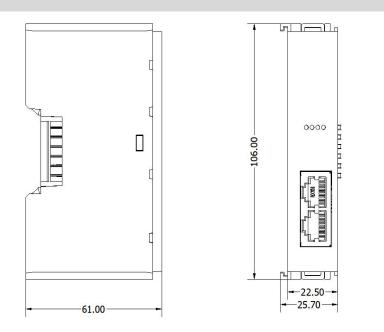
5 Installation and uninstall

5.1 Overall Dimension

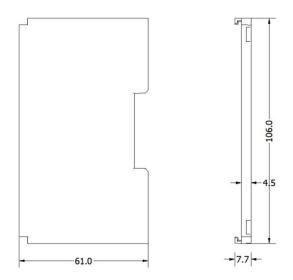
Power module outline specifications (unit:mm)



Gateway Module Form Factor (unit:mm)



End cap outline specifications (unit:mm)



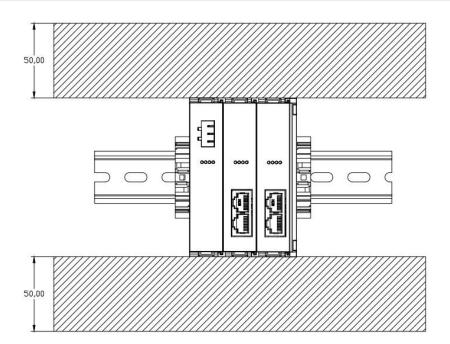
Note: All are installed with DIN 35 mm standard rail, DIN rail specification 35*7.5*1.0, 35*15*1.0 (unit mm).

5.2 Installation Guide

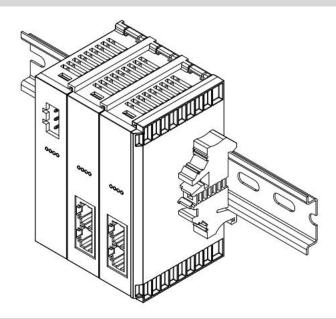
Precautions for installation\uninstall

- Ensure that the cabinet is well ventilated (e.g., the cabinet is fitted with an exhaust fan).
- Do not install this equipment next to or above equipment that may cause overheating.
- Be sure to install the module vertically and maintain air circulation around it (at least 50mm air circulation space above and below the module).
- Once the module is installed, be sure to secure the module by installing rail mounts on both ends.
- Be sure to disconnect the power supply when installing/uninstalling.

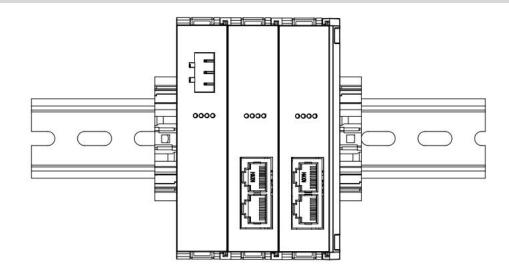
Minimum clearance for module installation (≥50mm)



Ensure that the module is installed vertically



Be sure to install the rail mounts



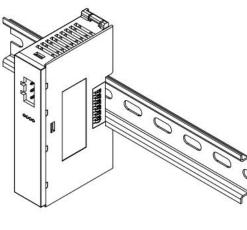
5.3 Installation and uninstall steps

| Module Installation and uninstall | | | | |
|-----------------------------------|---|--|--|--|
| Module Installation | 1. Install the power supply module first on the rail that has been fixed. | | | |
| Steps | 2. Install the gateway module to the right of the power module in order. | | | |
| | 3. After installing all gateway modules, install the end caps to complete the | | | |
| | installation of the modules. | | | |
| | 4. Install the rail fixings on both ends of the power module and end cap to fix | | | |
| | the module. | | | |
| Module uninstall | 1. Loosen the guide rail fixings at both ends of the module. | | | |
| procedure | 2. Use a one screwdriver to pry off the module snap. | | | |

3. Pull out the uninstalled module.

5.4 Installation Diagram

Power Module Installation

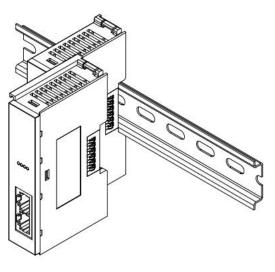


Step

Align the power module guide rail slot vertically with the guide rail, press the power module, and hear the "click" sound, the module is installed in place, as shown in the left figure ①.

1

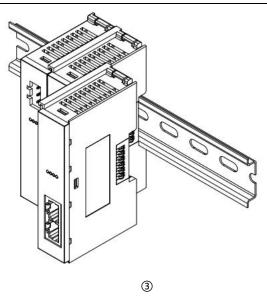
Gateway Module Installation



2

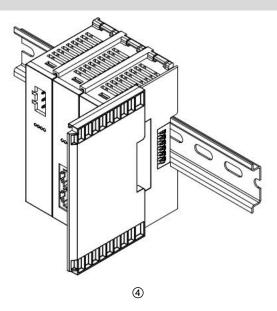
Step

Align the slot of the gateway module rail with the right side of the power supply module and push it in as shown in Figure 2 on the left. Press the gateway module firmly, and when you hear a "click" sound, the module will be installed in place.



Follow the steps in the previous step of installing the gateway module to install the second gateway module, as shown in Figure ③ on the left.

End cap retrofit



Step

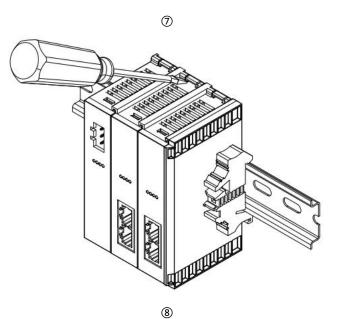
Install the end cap on the right side of the last module as shown in Figure ④ on the left, and refer to the installation method of the gateway module.

Retrofitting of guide rail fixings Step Å Fasten the left side of the power supply module and the right side of the end cap module, and install the rail fixings as shown in Figure (5) on the left. 5 Push the rail fixture firmly in the direction of the gateway module to ensure that the module is mounted tightly, and use a screwdriver to lock the rail fixture as shown in Figure 6 on the left. 6

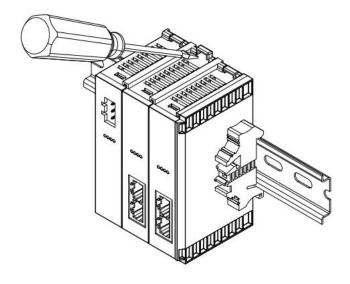
Uninstall

Step

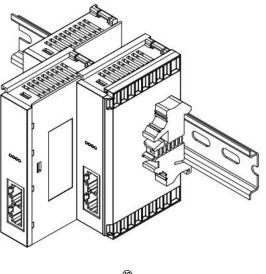
Loosen the rail retainer at one end of the module with a screwdriver and move it to one side, making sure there is a gap between the module and the rail retainer, as shown in Figure ⑦ on the left.



Insert a flat head up into the snap of the module to be uninstalled, and exert force in the direction of the module sideways (hear the rattling sound), as shown in Figures (a) and (a) on the left. **Note: Each module has a snap at the top and bottom, all operate in this** way.



9



Uninstall the module by doing the opposite of installing the module, as shown in Figure (1) on the left.

6 Wiring

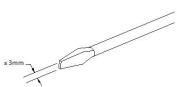
6.1 wiring terminal

| wiring terminal | | | | | | |
|-----------------|---------------|--|--|--|--|--|
| power supply | extremity | 3P | | | | |
| terminal | wire diameter | 22~16 AWG 0.3~1.5 mm ² | | | | |
| bus interface | 2×RJ45 | Category 5+ UTP or STP (STP recommended) | | | | |

6.2 Wiring instructions and requirements

Wiring Tool Requirements

The power supply terminal adopts screwless design, and the installation and removal of cables can be operated with a one-type screwdriver (specification: \leq 3mm).



Stripped Wire Length Requirements

The recommended cable stripping length for the power terminals is 10 mm.



Power module wiring method

For single stranded hard wires, after stripping the corresponding length of wire, press down the button while inserting the single stranded wire.

Multi-stranded flexible wires, after stripping the corresponding length of wire, can be directly connected or supporting the use of



the corresponding standard specifications of the cold compression end (tube-type insulated terminal, the reference specifications are shown in the table below), press down the button at the same time the line will be inserted.

The power supply terminal specifications are shown in the table below:

| Tube Insulation End Specification Sheet | | | | | | | |
|--|---------------------------|-------------------------|--|--|--|--|--|
| specification | model number | Cross-sectional area of | | | | | |
| | conductor mm ² | | | | | | |
| | E0310 | 0.3 | | | | | |
| | E0510 | 0.5 | | | | | |
| | E7510 | 0.75 | | | | | |
| | E1010 | 1.0 | | | | | |
| Tube insulated terminal L with a length of 10 mm | E1510 | 1.5 | | | | | |

Power supply wiring precautions

• PE must be reliably grounded.

Bus Wiring Method

Standard RJ45 network interface with standard crystal connector is used, and the pin assignment is shown in the table below.

| pin | code | | | |
|--------|------------|--|--|--|
| number | | | | |
| 1 | TD+ | | | |
| 2 | TD- | | | |
| 3 | RD+ | | | |
| 4 | "one" | | | |
| | radical in | | | |
| | Chinese | | | |

| 1 |
|---|
| 8 |
| 1 |
| 8 |

| | characters | | | | |
|---|------------|--|--|--|--|
| | (Kangxi | | | | |
| | radical 1) | | | | |
| 5 | "one" | | | | |
| | radical in | | | | |
| | Chinese | | | | |
| | characters | | | | |
| | (Kangxi | | | | |
| | radical 1) | | | | |
| 6 | RD- | | | | |
| 7 | "one" | | | | |
| | radical in | | | | |
| | Chinese | | | | |
| | characters | | | | |
| | (Kangxi | | | | |
| | radical 1) | | | | |
| 8 | "one" | | | | |
| | radical in | | | | |
| | Chinese | | | | |
| | characters | | | | |
| | (Kangxi | | | | |
| | radical 1) | | | | |
| | | | | | |

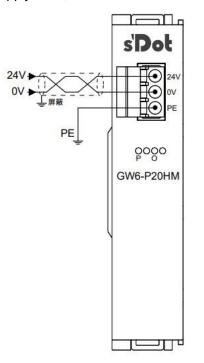
Precaution

• Double shielded (braided mesh + aluminum foil) STP cables of category 5 or higher are recommended as communication cables.

• The length of the cables between the devices must not exceed 100 m.

Power supply wiring: power module 3P terminal

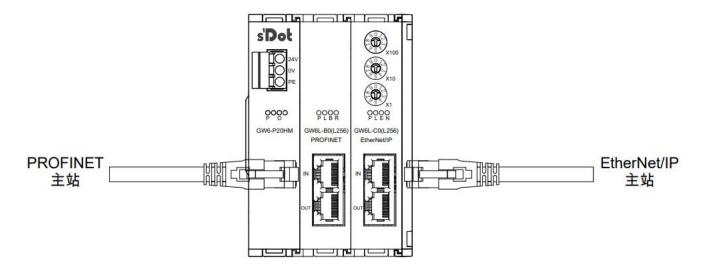
Using the DC24V power module, refer to the wiring method and connect the power supply according to the circuit shown in the following figure, and at the same time ground PE reliably (twisted-pair wire is recommended for the power supply cable).



*电源接线推荐使用两芯屏蔽双绞线,并可靠接地

6.3 wiring diagram

Taking GW6L-B0C0(L256) as an example, the topology connection method is shown below.



7 Operation

7.1 Description of process data

| Uplink data (256 bytes) | | | | | | | |
|-------------------------|--|-----------------|--|--|--|--|--|
| functionality | Meaning | address range | | | | | |
| | The input data of gateway module 1 in the kit | | | | | | |
| input data | corresponds to the output data of gateway module 2 | First 255 butos | | | | | |
| input data | The input data of gateway module 2 in the kit | First 255 bytes | | | | | |
| | corresponds to the output data of gateway module 1 | | | | | | |
| | 0x00 (Hex): no data interaction between gateways | | | | | | |
| status bit | 0x01 (Hex): there is data interaction between the | Last 1 buta | | | | | |
| Status bit | gateways | Last 1 byte | | | | | |
| | 0x02 (Hex): Gateway power-down state | | | | | | |
| | Downlink data (256 bytes) | | | | | | |
| functionality | Meaning | address range | | | | | |
| output data | Output data of the gateway module | First 255 bytes | | | | | |
| reserve | NULL | Last 1 byte | | | | | |

7.2 Module Configuration Description

7.2.1 GW6L-A0B0(L256) in TwinCAT3 and TIA Portal V17 Software Environment

7.2.1.1 Preliminary

- hardware environment
 - Module preparation
 This description uses the GW6L-A0B0(L256) gateway kit as an example
 - > Two computers, one pre-installed with TwinCAT3 software and one pre-installed with
 - **TIA Portal V17 software**
 - > Shielded cables for EtherCAT
 - > Shielded cables for PROFINET
 - One Siemens PLC
 This description is based on the example of Siemens S7-1200 CPU 1214C DC/DC/DC
 - > Two switching power supplies
 - > Module mounting rails and rail mounts
 - > Device Configuration Files

Configuration file access: https://www.solidotech.com/documents/configfile

• Hardware configuration and wiring Follow "5 Installation and uninstall" and "6 Wiring".

7.2.1.2 Communication connection in TwinCAT3 software

1、 Preset GW6L-A0(L256) Configuration File

a. Place the ESI configuration file (EcatTerminal-XB6_V3.10_ENUM.xml) in the TwinCAT installation directory under "C:\TwinCAT\3.1\Config\Io\EtherCAT" as shown below.

| 名称^ | 修改日期 | 类型 | 大小 |
|---------------------------------|------------------|---------------|----------|
| Beckhoff EPP1xxx.xml | 2017/12/14 11:34 | XML 文档 | 480 KB |
| Beckhoff EPP2xxx.xml | 2017/12/28 12:22 | XML 文档 | 1,811 KB |
| Beckhoff EPP3xxx.xml | 2017/12/8 8:48 | XML 文档 | 2,099 KE |
| Beckhoff EPP4xxx.xml | 2016/12/22 10:57 | XML 文档 | 500 KE |
| Beckhoff EPP5xxx.xml | 2016/12/22 10:57 | XML 文档 | 736 KB |
| Beckhoff EPP6xxx.xml | 2017/4/5 14:46 | XML 文档 | 1,272 KE |
| Beckhoff EPP7xxx.xml | 2016/12/22 10:57 | XML 文档 | 1,466 KE |
| Beckhoff EQ1xxx.xml | 2015/11/12 14:24 | XML 文档 | 22 KE |
| Beckhoff EQ2xxx.xml | 2016/11/23 10:42 | XML 文档 | 73 KE |
| Beckhoff EQ3xxx.xml | 2016/11/22 11:22 | XML 文档 | 1,386 KE |
| Beckhoff ER1xxx.XML | 2016/11/21 15:46 | XML 文档 | 165 KE |
| Beckhoff ER2xxx.XML | 2016/11/21 14:32 | XML 文档 | 259 KE |
| Beckhoff ER3xxx.XML | 2017/6/9 13:35 | XML 文档 | 1,177 KE |
| Beckhoff ER4xxx.xml | 2016/11/22 12:58 | XML 文档 | 318 KE |
| Beckhoff ER5xxx.xml | 2016/3/14 11:52 | XML 文档 | 273 KE |
| Beckhoff ER6xxx.xml | 2016/3/14 11:52 | XML 文档 | 494 KE |
| Beckhoff ER7xxx.xml | 2016/11/22 12:14 | XML 文档 | 1,503 KE |
| Beckhoff ER8xxx.xml | 2016/3/14 11:52 | XML 文档 | 207 KE |
| Beckhoff EtherCAT EvaBoard.xml | 2015/2/4 12:57 | XML 文档 | 72 KE |
| Beckhoff EtherCAT Terminals.xml | 2015/2/4 12:57 | XML 文档 | 53 KE |
| Beckhoff FB1XXX.xml | 2017/5/24 12:26 | XML 文档 | 49 KE |
| Beckhoff FCxxxx.xml | 2015/2/4 12:57 | XML 文档 | 21 KE |
| Beckhoff ILxxxx-B110.xml | 2015/2/4 12:57 | XML文档 | 8 KE |
| EcatTerminal-XB6 V3.10 ENUM.xml | 2023/3/21 10:57 | XML 文档 | 470 KB |

» 此电脑 » Windows (C:) » TwinCAT » 3.1 » Config » Io » EtherCAT »

2. Create Project

a. Click the TwinCAT icon in the lower right corner of the desktop and select "TwinCAT XAE (VS xxxx)" to open the TwinCAT3 software as shown below.

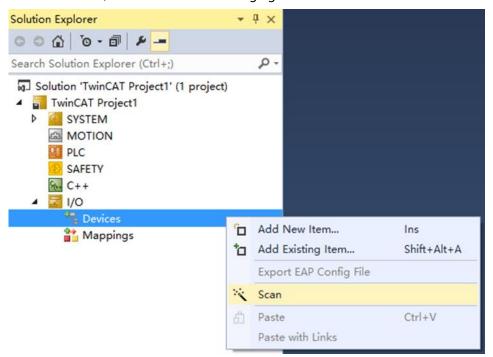


b. Click "New TwinCAT Project", in the pop-up window, "Name" and "Solution name" correspond to the project name and solution name respectively. "Location" corresponds to the project path, these three items can be selected by default, click "OK", the project was created successfully, as shown in the following figure.

| New TwinCAT | Project | Get S | Started | Beckhoff N | lews | | | | |
|---|---|-------------------|--------------------|-----------------|--------|--------|-----------------------|------------|----|
| New Measurer | ment Project | 1 | pe per per per ser | | What's | New in | TwinCAT 3 | | |
| New Project | | | | | | | | ? | × |
| ▶ Recent | | NET Framework 4.5 | ✓ Sort b | y: Default | • | II' IE | Search II | nstalled | P |
| Installed Templates Other Projee TwinCAT Me TwinCAT PLG TwinCAT PCG Samples Online | easurement C | TwinCAT XAE | | vinCAT Projects | | | Projects stem Mana | ager | |
| Name: Location: Solution name: | TwinCAT Project1 D:\workspace\Tw TwinCAT Project1 | inCAT Project | | | Browse | | for solutic | on Canc | el |

3、 scanning device

a. After creating the project, right-click on the "Scan" option under "I/O -> Devices" to perform a slave device scan, as shown in the following figure.



b. Check the "Local Connection" box, as shown in the following figure.

| 1 new I/O devices found | × |
|--|--------------|
| Device 2 (EtherCAT) [以太网 (Realtek PCIe GbE Family Controller)] | OK |
| | Cancel |
| | Select All |
| | Unselect All |
| | |
| | |
| | |
| | |

c. Click on the pop-up window "Scan for boxes" and select "Yes"; click on the pop-up window "Activate Free Run" and select "Yes". "Yes", as shown in the figure below.

| Microsoft Visual Studio | | × Mi | Microsoft Visual Studio | | | | | |
|-------------------------|------|------|-------------------------|--------|--|--|--|--|
| Scan for boxes | | | ? Activate Fr | ee Run | | | | |
| 是(Y) | 否(N) | | 是(Y) | 否(N) | | | | |

d. After scanning to the device, you can see Box1 (GW6L-A0(L256)) in the left navigation tree, and you can see TwinCAT is in the "OP" state in the "Online" section, and you can observe that the RUN light of the slave device is always on, as shown in the figure below.

| Solution Explorer 🔹 👎 🗙 | TwinCAT Project1 | ÷ X | | - |
|--|------------------|-------------------------|---------------------|----------|
| ○ ○ ☆ io · @ / ₽ | General EtherC | AT Process Data Startup | CoE - Online Online | |
| Search Solution Explorer (Ctrl+;) | State Machir | ne | | |
| Solution 'TwinCAT Project1' (1 project) TwinCAT Project1 | Init | Bootstrap | | |
| SYSTEM | Pre-Op | Safe-Op | Current State: | OP |
| I PLC | Ор | Clear Error | Requested State: | OP |
| SAFETY | ΟΡ | Clear Error | | |
| 🔺 🕎 I/O | DLL Status | | | |
| The provides The provided and the provided and t | Port A: | Carrier / Open | | |
| Image Image-Info | Port B: | No Carrier / Closed | | |
| SyncUnits | Port C: | No Carrier / Closed | | |
| Inputs Outputs | Port D: | No Carrier / Closed | | |
| InfoData Box 1 (GW6L-A0(L256)) | | | | |
| Mappings | | ver EtherCAT | - | |
| | Downloa | ud Upload | | |
| | | | | |
| | | | | |
| | | | | |
| | - | | | |

4、 Viewing uplink and downlink data

a. The left navigation tree "Box1 -> Inputs" displays the uplink data of the gateway module, which is used to check whether the data is correctly imported, as shown in the following figure.

| Solution Explorer 🔹 | ųΧ | TwinCAT Pr | oject1 + × | | | | | | | |
|--|----|--------------------|------------|------|------|----------|--------|---------|-----------|--|
| 0 0 û o 0 / / | | Name | Online | Type | Size | >Address | In/Out | User ID | Linked to | |
| Search Solution Explorer (Ctrl+;) | ρ. | ≈ 100 | 0 | UINT | 2.0 | 39.0 | Input | 0 | | |
| | | ≈ 101 | 0 | UINT | 2.0 | 41.0 | Input | 0 | | |
| Solution 'TwinCAT Project1' (1 project) | | ≈ 102 | 0 | UINT | 2.0 | 43.0 | Input | 0 | | |
| TwinCAT Project1 | | 103 | 0 | UINT | 2.0 | 45.0 | Input | 0 | | |
| SYSTEM | | <mark>∞</mark> 104 | 0 | UINT | 2.0 | 47.0 | Input | 0 | | |
| MOTION | | 2 105 | 0 | UINT | 2.0 | 49.0 | Input | 0 | | |
| PLC CALERY | | ∞ 106 | 0 | UINT | 2.0 | 51.0 | Input | 0 | | |
| SAFETY | | 107 | 0 | UINT | 2.0 | 53.0 | Input | 0 | | |
| 6 C++ ▲ 🔀 I/O | | ≈ 108 | 0 | UINT | 2.0 | 55.0 | Input | 0 | | |
| Bevices | | 109 | 0 | UINT | 2.0 | 57.0 | Input | 0 | | |
| ▲ ➡ Devices | | 🕶 10a | 0 | UINT | 2.0 | 59.0 | Input | 0 | | |
| 2 ■ Device 2 (Effectivity) 2 ■ Image | | ≠ 10b | 0 | UINT | 2.0 | 61.0 | Input | 0 | | |
| Image-Info | | ∞ I0c | 0 | UINT | 2.0 | 63.0 | Input | 0 | | |
| SyncUnits | | ≠ 10d | 0 | UINT | 2.0 | 65.0 | Input | 0 | | |
| Inputs | | ≈ 10e | 0 | UINT | 2.0 | 67.0 | Input | 0 | | |
| Outputs | | ≠ 10f | 0 | UINT | 2.0 | 69.0 | Input | 0 | | |
| 👂 🛄 InfoData | | ∞ 110 | 0 | UINT | 2.0 | 71.0 | Input | 0 | | |
| 🔺 🎢 Box 1 (GW6L-A0(L256)) | | ∞ 11 | 0 | UINT | 2.0 | 73.0 | Input | 0 | | |
| 🕨 🛁 Inputs | | ≈ 12 | 0 | UINT | 2.0 | 75.0 | Input | 0 | | |
| Image: Second sec | | ≈ 13 | 0 | UINT | 2.0 | 77.0 | Input | 0 | | |
| | | ≈ 14 | 0 | UINT | 2.0 | 79.0 | Input | 0 | | |
| | | ≠ 115 | 0 | UINT | 2.0 | 81.0 | Input | 0 | | |
| | | ≈ I16 | 0 | UINT | 2.0 | 83.0 | Input | 0 | | |
| | | ≈ I17 | 0 | UINT | 2.0 | 85.0 | Input | 0 | | |
| | | ≈ I17 ≈ I18 | 0 | UINT | 2.0 | 87.0 | Input | 0 | | |
| | | ≈ I19 | 0 | UINT | 2.0 | 89.0 | | 0 | | |
| | | ≈ 119 ≖ 115 | 0 | | 2.0 | 89.0 | Input | 0 | | |

b. In this example, the range of 39~293 bytes in the uplink data is the input data, totaling 255 bytes; the 294th byte, i.e., the last byte, is the status bit, as shown in the figure below.

| Solution Explorer 🚽 👻 🚽 🗙 | TwinCAT Pr | oject1 ⊉ × | | | | | | |
|---|--------------------|------------|------|------|----------|--------|---------|-----------|
| 0 0 û '0 · 0 / 1 0 0 0 | Name | Online | Type | Size | >Address | In/Out | User ID | Linked to |
| earch Solution Explorer (Ctrl+;) | <mark>≁</mark> 166 | 0 | UINT | 2.0 | 243.0 | Input | 0 | |
| | ≈ 167 | 0 | UINT | 2.0 | 245.0 | Input | 0 | |
| Solution 'TwinCAT Project1' (1 project) | <mark>≁</mark> 168 | 0 | UINT | 2.0 | 247.0 | Input | 0 | |
| TwinCAT Project1 | <mark>∞</mark> 169 | 0 | UINT | 2.0 | 249.0 | Input | 0 | |
| SYSTEM | 🕫 l6a | 0 | UINT | 2.0 | 251.0 | Input | 0 | |
| MOTION | 🕫 l6b | 0 | UINT | 2.0 | 253.0 | Input | 0 | |
| PLC SAFETY | ≈ I6c | 0 | UINT | 2.0 | 255.0 | Input | 0 | |
| SAFETY | 🕫 l6d | 0 | UINT | 2.0 | 257.0 | Input | 0 | |
| ▲ 🔄 I/O | ≈ 16e | 0 | UINT | 2.0 | 259.0 | Input | 0 | |
| Devices | 🕫 l6f | 0 | UINT | 2.0 | 261.0 | Input | 0 | |
| Devices Device 2 (EtherCAT) | 170 | 0 | UINT | 2.0 | 263.0 | Input | 0 | |
| the first and t | 2 171 | 0 | UINT | 2.0 | 265.0 | Input | 0 | |
| 📑 Image-Info | 172 | 0 | UINT | 2.0 | 267.0 | Input | 0 | |
| SyncUnits | 173 | 0 | UINT | 2.0 | 269.0 | Input | 0 | |
| Inputs | ∞ 174 | 0 | UINT | 2.0 | 271.0 | Input | 0 | |
| Outputs | ≠ 175 | 0 | UINT | 2.0 | 273.0 | Input | 0 | |
| 👂 🛄 InfoData | 176 | 0 | UINT | 2.0 | 275.0 | Input | 0 | |
| Box 1 (GW6L-A0(L256)) | 177 | 0 | UINT | 2.0 | 277.0 | Input | 0 | |
| Inputs | ∞ 178 | 0 | UINT | 2.0 | 279.0 | Input | 0 | |
| Outputs | 179 | 0 | UINT | 2.0 | 281.0 | Input | 0 | |
| WcState | ≠17a | 0 | UINT | 2.0 | 283.0 | Input | 0 | |
| 👂 🛄 InfoData | ≈ 17b | 0 | UINT | 2.0 | 285.0 | Input | 0 | |
| 📸 Mappings | ≈ 17c | 0 | UINT | 2.0 | 287.0 | Input | 0 | |
| | ≈ 17d | 0 | UINT | 2.0 | 289.0 | Input | 0 | |
| | ≈ 17e | 0 | UINT | 2.0 | 291.0 | Input | 0 | |
| | ≈ 17e | 0x0200 | UINT | 2.0 | 293.0 | Input | 0 | |

c. The left navigation tree "Box1 -> Outputs" displays the downlink data of the gateway module, which is used to force the output of data, as shown in the following figure.

| Solution Explorer 👻 🕂 🗙 | TwinCAT Pr | oject1 -¤ × | | | | | | |
|--|--------------|-------------|-------|------|----------|--------|---------|-----------|
| G O 🔂 To - 🗊 🖌 💻 | Name | Online | Type | Size | >Address | In/Out | User ID | Linked to |
| Search Solution Explorer (Ctrl+;) | ■ 000 | 0 | UINT | 2.0 | 39.0 | Output | 0 | |
| search solution explorer (Cu1+,) | ■ O01 | 0 | UINT | 2.0 | 41.0 | Output | 0 | |
| Solution 'TwinCAT Project1' (1 project) | ₽ 002 | 0 | UINT | 2.0 | 43.0 | Output | 0 | |
| TwinCAT Project1 | ■ O03 | 0 | UINT | 2.0 | 45.0 | Output | 0 | |
| SYSTEM | ■ 004 | 0 | UINT | 2.0 | 47.0 | Output | 0 | |
| MOTION | ₽ 005 | 0 | UINT | 2.0 | 49.0 | Output | 0 | |
| | ■ 006 | 0 | UINT | 2.0 | 51.0 | Output | 0 | |
| SAFETY C++ | ■ 007 | 0 | UINT | 2.0 | 53.0 | Output | 0 | |
| General C++ | ■ 008 | 0 | UINT | 2.0 | 55.0 | Output | 0 | |
| Devices | ₽ 009 | 0 | UINT | 2.0 | 57.0 | Output | 0 | |
| ✓ Device 2 (EtherCAT) | ■ O0a | 0 | UINT | 2.0 | 59.0 | Output | 0 | |
| 🛟 Image | ■ O0b | 0 | UINT | 2.0 | 61.0 | Output | 0 | |
| 📑 Image-Info | ■ O0c | 0 | UINT | 2.0 | 63.0 | Output | 0 | |
| SyncUnits | ■ O0d | 0 | UINT | 2.0 | 65.0 | Output | 0 | |
| Inputs | ■ O0e | 0 | UINT | 2.0 | 67.0 | Output | 0 | |
| Outputs | ■ O0f | 0 | UINT | 2.0 | 69.0 | Output | 0 | |
| InfoData | ■ 010 | 0 | UINT | 2.0 | 71.0 | Output | 0 | |
| Box 1 (GW6L-A0(L256)) | ■ 011 | 0 | UINT | 2.0 | 73.0 | Output | 0 | |
| Inputs | 012 | 0 | UINT | 2.0 | 75.0 | Output | 0 | |
| Outputs | ■ 013 | 0 | UINT | 2.0 | 77.0 | Output | 0 | |
| ▷ 🛄 WcState ▷ 🛄 InfoData | ■ 014 | 0 | UINT | 2.0 | 79.0 | Output | 0 | |
| and the second s | ■ 015 | 0 | UINT | 2.0 | 81.0 | Output | 0 | |
| | ■ 016 | 0 | UINT | 2.0 | 83.0 | Output | 0 | |
| | © 017 | 0 | UINT | 2.0 | 85.0 | Output | 0 | |
| | ■ 018 | 0 | UINT | 2.0 | 87.0 | Output | 0 | |
| | ₽ 019 | 0 | UINT | 2.0 | 89.0 | Output | 0 | |
| | - 01a | 0 | LUNIT | 20 | 01.0 | Output | 0 | |

d. Right-click on any double-byte, such as "O00", select "Display Mode" to set the data display format to hexadecimal/decimal, select "Online Write Select "Online Write" to write the value online, as shown in the figure below.

| Solution Explorer 🛛 👻 🖣 💈 | < TwinCAT P | oject1 ≄ × | | | | | | |
|---|-----------------|----------------|------|------|----------|--------|---------|-----------|
| C C G T 0 - 0 ₽ | Name | Online | Туре | Size | >Address | In/Out | User ID | Linked to |
| earch Solution Explorer (Ctrl+;) | ■ O00 | 43981 (0xabcd) | UINT | 2.0 | 39.0 | Output | 0 | |
| | _ ■ ©001 | 65535 (0xffff) | UINT | 2.0 | 41.0 | Output | 0 | |
| Solution 'TwinCAT Project1' (1 project) | ₽ 002 | 0 (0x0000) | UINT | 2.0 | 43.0 | Output | 0 | |
| TwinCAT Project1 | ■ O03 | 0 (0x0000) | UINT | 2.0 | 45.0 | Output | 0 | |
| SYSTEM | ■ 004 | 0 (0x0000) | UINT | 2.0 | 47.0 | Output | 0 | |
| | ■ 005 | 0 (0x0000) | UINT | 2.0 | 49.0 | Output | 0 | |
| SAFETY | ■ 006 | 0 (0x0000) | UINT | 2.0 | 51.0 | Output | 0 | |
| SALLIT See C++ | © 007 | 0 (0x0000) | UINT | 2.0 | 53.0 | Output | 0 | |
| | ■ 008 | 0 (0x0000) | UINT | 2.0 | 55.0 | Output | 0 | |
| Devices | © 009 | 0 (0x0000) | UINT | 2.0 | 57.0 | Output | 0 | |
| Device 2 (EtherCAT) | ■ O0a | 0 (0x0000) | UINT | 2.0 | 59.0 | Output | 0 | |
| 🛟 Image | ■ O0b | 0 (0x0000) | UINT | 2.0 | 61.0 | Output | 0 | |
| 📑 Image-Info | ■ O0c | 0 (0x0000) | UINT | 2.0 | 63.0 | Output | 0 | |
| SyncUnits | ■ O0d | 0 (0x0000) | UINT | 2.0 | 65.0 | Output | 0 | |
| Inputs | ■ O0e | 0 (0x0000) | UINT | 2.0 | 67.0 | Output | 0 | |
| Outputs | ■ O0f | 0 (0x0000) | UINT | 2.0 | 69.0 | Output | 0 | |
| InfoData | ■ 010 | 0 (0x0000) | UINT | 2.0 | 71.0 | Output | 0 | |
| Box 1 (GW6L-A0(L256)) | ■011 | 0 (0x0000) | UINT | 2.0 | 73.0 | Output | 0 | |
| Inputs | ■012 | 0 (0x0000) | UINT | 2.0 | 75.0 | Output | 0 | |
| Outputs | ■013 | 0 (0x0000) | UINT | 2.0 | 77.0 | Output | 0 | |
| WcState | ■014 | 0 (0x0000) | UINT | 2.0 | 79.0 | Output | 0 | |
| 👂 🛄 InfoData | ■015 | 0 (0x0000) | UINT | 2.0 | 81.0 | Output | 0 | |
| 📸 Mappings | ₽ 016 | 0 (0x0000) | UINT | 2.0 | 83.0 | Output | 0 | |
| | ■017 | 0 (0x0000) | UINT | 2.0 | 85.0 | Output | 0 | |
| | ■ 018 | 0 (0x0000) | UINT | 2.0 | 87.0 | Output | 0 | |
| | ■ O19 | 0 (0x0000) | UINT | 2.0 | 89.0 | Output | 0 | |
| | - 015 | 0 (0x0000) | LUNT | 2.0 | 01.0 | Output | 0 | |

7.2.1.3 Communication connection in TIA Portal V17 software

1、New project

a. Open TIA Portal V17 software and click "Create New Project" .

| | Create new project | | |
|-----------------------|---------------------|--------------------------|--------|
| Open existing project | Project name: | GW6L | |
| Open existing project | Path: | C:\Users\29719\Documents | |
| 🥚 Create new project | Version: | V17 | |
| Migrate project | Author: Comment: | Administrator | |
| Close project | | | |
| Welcome Tour | | | Create |
| increase four | | | |
| First steps | | | |

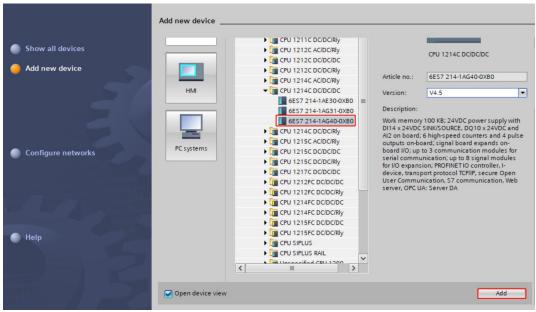
- Project name: customizable, can be left as default.
- Path: the project keeps the path, which can be left as default.
- Version: can be left as default.
- AUTHOR: The default can be maintained.
- Comment: Customizable, may not be filled in.

2、 Adding a PLC controller

a. Click "Configure A Device", as shown in the following figure.

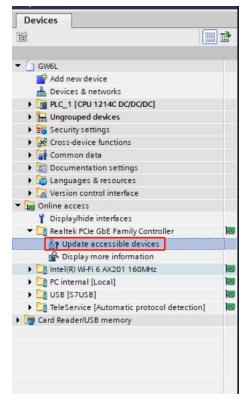
| Start 🦾 | | First steps |
|---|--|---|
| Devices & | Open existing project Create new project Migrate project | Project: "GW6L" was opened successfully. Please select the next step: |
| Motion & 🚓 technology 🔅 Visualization 🧊 | Close project Welcome Tour First steps | Devices & Configure a device PLC programming Vrite PLC program |
| Diagnostics | Installed software Help | Motion & technology Configure technology objects Visualization Configure an HM screen |
| | 🚱 User interface language | |

b. Click "Add New Device", select the PLC model you are currently using, and click "Add", as shown in the following figure. After adding, you can see that the PLC has been added to the device navigation tree.



3、 Scanning connected devices

a. Click "Online Access -> Update Accessible Devices" in the left navigation tree as shown below.



b. When the update is complete, the connected slave devices are displayed, as shown in the following figure.

| Project tree | | W6L ▶ P | LC_1 [CPU 1214C DC/DC/DC] | | | | | | | | _ • • • |
|--|-----|---------|------------------------------------|---------------|---------------|----------------|------------------------------|---------------------|-----------|------------|------------|
| Devices | | | | | | | 🛃 Тор | ology view 🔥 Ne | twork vie | w 🛐 De | vice view |
| 副 | | Devi | ce overview | | | | | | | | |
| The same | | - ** | Module | Slot | I address | Q address | Туре | Article no. | Firmware | Comment | |
| GW6L | | | | 103 | | | | | | | |
| Add new device | | | | 102 | | | | | | | |
| devices & networks | | | | 101 | | | | | | | |
| • [] PLC_1 [CPU 1214C DC/DC/DC] | | | ▼ PLC_1 | 1 | | | CPU 1214C DC/DC/DC | 6ES7 214-1AG40-0XB0 | V4.5 | | |
| Ungrouped devices | | | DI 14/DQ 10_1 | 11 | 01 | 01 | DI 14/DQ 10 | | | | |
| Security settings | | | AJ 2_1 | 12 | 6467 | | AI 2 | | | | |
| Cross-device functions | | | | 13 | | | | | | | |
| 🕨 🙀 Common data | | | HSC 1 | 1 16 | 100010 | | HSC | | | | |
| Documentation settings | | | HSC_2 | 1 17 | 100410 | | HSC | | | | |
| Languages & resources | | | HSC 3 | 1 18 | 100810 | | HSC | | | | |
| Version control interface | MR. | | HSC_4 | 1 19 | 1012 10 | | HSC | | | | |
| Doline access | 1 | | HSC_5 | 1 20 | 101610 | | HSC | | | | |
| Y Display/hide interfaces | | | HSC_6 | 1 21 | 102010 | | HSC | | | | |
| Realtek PCIe GbE Family Controller | 100 | | Pulse_1 | 1 32 | 1020 | | Pulse generator (PTO/P | | | | |
| Pupdate accessible devices | | | Pulse_2 | 1 33 | | | Pulse generator (PTO/P | | | | |
| P Display more information | | | Pulse 3 | 1 34 | | | Pulse generator (PTO/P | | | | |
| plc_1 [192.168.0.1] | | | Pulse_4 | 1 34 | | | Pulse generator (PTO/P | | | | |
| pnio [192.168.0.2] | | | OPC UA | 1 254 | | 100010 | OPC UA | | | | |
| Intel(R) Wi-Fi 6 AX201 160MHz | 100 | | PROFINET interface 1 | 1 254 1 X1 | | | PROFINET interface | | | | |
| PC internal [Local] | 100 | | PROFINETINTERface_1 | | | | PROFINE I Internace | | | | |
| USB [S7USB] | 100 | | | 2 | | | | | | | |
| TeleService [Automatic protocol detection] | 100 | < | | 3 | | | | | | | |
| Card Reader/USB memory | - | < | | _ | _ | _ | | | | | |
| | | | | | - | | <u>Q</u> P | roperties 🚺 Info | 1 U D | iagnostics | |
| | | General | Cross-references C | ompile | | | | | | | |
| | | 3 🚹 🖯 | Show all messages | • | | | | | | | |
| | | | | | | | | | | | |
| | 1 | Message | • | | | | | Go to | ? | Date | Time |
| | | Proje | ect GW6Lcreated. | | | | | | | 1/17/2024 | 1:19:05 PM |
| | | Scar | nning for devices on interface Rea | tek PCIe Gl | E Family Con | troller was st | tarted. | | | 1/17/2024 | 1:32:58 PM |
| | | Scar | nning for devices completed for in | terface Rea | Itek PCIe GbE | Family Contr | roller. Found 2 device(s) or | the network. | | 1/17/2024 | 1:33:04 PM |

The IP address of the computer must be in the same network segment as the PLC, if not, modify the IP address of the computer and repeat the above steps.

4. Adding a GSD Configuration File

- a. In the menu bar, select "Options -> Manage General Station Description File (GSDML) (D)".
- b. Click Source Path to select the file.
- c. Check if the status of the GSD file you want to add is "Not yet installed", click Install if it is not installed, or Cancel if it is already installed to skip the installation step.

| Manage general station description files | | | | × |
|--|---------|----------|-------------------|-----|
| Installed GSDs GSDs in the project | | | | |
| Source path: D:\ | | | | |
| Content of imported path | | | | |
| File | Version | Language | Status | |
| GSDML-V2.3-Sdot-GW6L_B0(L256)-20230531.xml | V2.3 | English | Not yet installed | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | > |
| | | | | |
| | | Delete | Install Can | cel |
| | | | | |

5. Adding Slave Devices

- a. Double-click on "Devices & Networks" in the left navigation tree.
- b. Click the "Hardware Catalog" vertical button on the right, the catalog is displayed as shown below.

| | 🗄 🗓 🗓 🔛 🔛 🦉 🕼 co online 🖉 Go offline 🏭 🖪 🕼 🧏 🖉 🛃 🕹 📥 😆 arch in project. | PORT |
|--|---|---|
| Project tree | □ | 💶 🖬 🖬 🗙 Hardware catalog 🛛 🗊 🛙 |
| Devices | 🖉 Topology view 🔹 Network v | view Device view Options |
| 19 19 | 🔟 🖻 💦 Network 🔢 Connections HM connection 💌 🔒 Relations 🖾 📆 🗑 🔛 🛄 🔍 ± | |
| | | ▲ Catalog |
| GW6L | | dearch> |
| Add new device | PLC.1 | Filter Profile: <ali>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>></ali> |
| networks | CPU1214C | Controllers |
| PLC_1 [CPU 1214C DC/DC/DC] | | > Controllers |
| Generation of the second | | C systems |
| • 📅 Security settings | | C systems Drives & starters |
| Cross-device functions | | Im Drives a starters Im Network components |
| • 🙀 Common data | | Detecting & Monitoring |
| Documentation settings | | Distributed I/O |
| Co Languages & resources | | Power supply and distributio |
| Version control interface | | Field devices |
| Online access | | Other field devices |
| Displayhide interfaces Displayhide Example Controller | | Coner nelo devices |
| Realtek PCIe GbE Family Controller | | E Sk |
| Opdate accessible devices Display more information | | |
| Display more information Display more information | | |
| pic_1 [192.168.0.1] | | |
| Conline & diagnostics | | |
| Intel(R) Wi-Fi 6 AX201 160MHz | | |
| PC internal [Local] | | |
| USB [S7USB] | | |
| TeleService [Automatic protocol detection] | | |
| Card Reader/USB memory | | |
| Caro Readenoso memory | | |
| | | |
| | | |
| | | |
| | | |
| | < III > 100% | · |
| | X III > 100% | |

- c. Select "Other field devices -> PROFINET IO -> Gateway -> Sdot -> X-Bus -> GW6L-B0(L256)".
- d. Drag or double-click "GW6L-B0(L256)" to the "Network View" as shown below.

| Devices | 2 | Topology view | Network view | Devid | e view | Options | | | | |
|---|--------------------|----------------|--------------|--------|----------|-----------|----------|--------------|------|---------|
| 1 III III III III III III III III III I | Network Connection | HMI connection | Relation | ns 📴 🕨 | 3 | | | | | |
| | | | | | ^ | ✓ Catalog | 3 | | | |
| - GW6L | | | | _ | = | | | 1 | inil | i i î î |
| Add new device | PLC 1 | PNIO | _ | | | Filter | Profile: | <all></all> | | _ |
| Devices & networks | | GW6L B0 L256 | DP-NORM | | | | | | • | 1 |
| PLC_1 [CPU 1214C DC/DC/DC] | CPU 1214C | Not assigned | | | | Powe | | nd distribut | ion | ^ |
| Ungrouped devices | | Nocassigned | | | | Field | | | | |
| Security settings | | | | | | - Other | | | | |
| Cross-device functions | | | | | - 110 | | | thernet der | ices | |
| Unassigned devices | | | | | | | OFINETIO | | | |
| 🕨 🙀 Common data | | | | | - 6 | | Drives | | | |
| Documentation settings | | | | | | | Encoders | | | |
| Languages & resources | | | | | | | Gateway | | | |
| Version control interface | 1 | | | | - 6 | - 🗋 | | | | |
| Online access | 1 | | | | | | BAYM | 85 | | |
| Card Reader/USB memory | | | | | | - | Sdot | | | = |
| | | | | | | | | 7 PN Gatev | ay | |
| | | | | | | | 🕨 🛅 SK- | | | |
| | | | | | _ | | 🕶 🛄 Х-В | us | | |
| | - | | | | _ | | | GW6L_B0_L | 256 | |
| | | | | | - 11 | | | XB6-PN000 | 2 | |
| | | | | | |) · | SIEME | NS AG | | |
| | | | | | | • | SOLID | от | | |

e. Click "Unassigned (blue font)" on the slave device and select "PLC_1.PROFINET Interface_1" as shown below.

| | 🛃 Topology view 🛛 🛔 Network view 📑 Dev | ice view |
|---------------------|--|----------|
| Network Connections | HMI connection 💌 🔐 Relations 🕎 🖫 🗐 🖽 🛄 🔍 ± | |
| PLC_1 PU 1214C | PNIO GW6L_B0_L256 Not assigned Select IO controller PLC_1.PROFINET interface_1 | |
| | | |
| | | _ |

f. When the connection is complete, it is shown below.

| GW6L > Devices & netwo | ks | | _∎≡× |
|------------------------|-------------------------------|--------------------------|-------------------|
| | 📲 Topology vie | w 🔒 Network view | Device view |
| Network Connections | HMI connection | Relations 👯 🖫 🖿 🖽 | 🔲 🔍 ± 📑 🚺 |
| | † 10 | O system: PLC_1.PROFINET | IO-System (100) 🔷 |
| | | | = |
| PLC_1 CPU 1214C | PNIO GW6L_B0_L256 PLC_1 | 0RM | |
| PL | C_1.PROFINET IO-Syste | | |
| | | | Netwo |
| | | | I Alta |

g. Click on the device name to rename the device, as shown in the following figure.

| | 🚰 Topology view 🛛 🛗 Network view 🛛 🏠 Device vi | ew |
|---------------------|--|----|
| Network Connections | HMI connection 💌 🖪 Relations 🔛 🐫 📲 🖽 🛄 🍳 ± | 1 |
| | IO system: PLC_1.PROFINET IO-System (100) | ^ |
| | | = |
| PLC_1 CPU 1214C | GW6L-80(L256) GW6L_80_L256 DP-NORM | |
| | PLC_1 | |
| _ | | |
| P | LC_1.PROFINET IO-Syste | |
| | | |
| | | |

h. Click "Device overview" to enter the device overview, you can see the topology configuration information, including the I/O address automatically assigned by the system, the I/O address can be changed by yourself, as shown in the following figure.

| | | | 📑 To | pology vie | w daa N | letwork view | Device view |
|-----|-----------------------------------|----------|------|------------|-----------|--------------|---------------|
| Dev | ice overview | | | | | | |
| * | Module | Rack | Slot | I address | Q address | Туре | Article numbe |
| | GW6L-B0(L256) | 0 | 0 | | | GW6L_B0_L256 | 1234567 |
| | PN-IO | 0 | 0 X1 | | | PNIO | |
| | IN/OUT_1 | 0 | 1 | 68323 | 2257 | IN/OUT | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

6. Assign device name

a. Switch to "Network View", right-click the connection cable between PLC and GW6L-B0(L256), and select "Assign Device Name".

| | 2 | Topology view | Network view | v Device view |
|---------------------|--|---|------------------|---------------------|
| Network Connections | HMI connection | Relations | 2 3 1 | 8 🛄 🔍 ± 📑 🛛 |
| | | 4 IO system | n: PLC_1.PROFINE | T IO-System (100) 🔨 |
| | _ | | | = |
| PLC 1 | GW6L-B0(L25 | 6) | | = |
| PU 1214C | GW6L_B0_L25 | | | |
| | PLC_1 | | | |
| | | E I | | |
| | | | | |
| <u></u> Р | LC_1.PROFINET IO-S | | | |
| | X c | | Ctrl+X Ctrl+C | |
| | 111 C | | Ctrl+C | |
| | | | | |
| | XD | | Del | |
| | Re | ename | F2 | |
| | A | ssign to new DP master | / IO controller | |
| | C | ompile | • | |
| | | ownload to device | • | |
| | 💋 G | o online | Ctrl+K | |
| | 🔊 G | o offline | Ctrl+M | |
| | U 0 | nline & diagnostics | Ctrl+D | |
| | | | | |
| | DAME A | ssign device name | | |
| | | ssign device name ssign PROFIsafe address | | |
| | A Re | ssign device name ssign PROFIsafe address aceive alarms | | |
| | A Contraction of the second se | ssign device name ssign PROFIsafe address | | |

b. The "Assign PROFINET Device Name" window pops up as shown below.

| | | DOOD SHIET 4 | | 6l-b0(l256) | | | - | |
|-----------|------------|-----------------------------|----------------|-----------------|----------|------------|-------|--------|
| | | PROFINET device n Device | | | | | | |
| | | | type: GW | 6L-B0(L256) | | | | |
| | | Online access | | | | | | |
| | | Type of the PG/PC inter | | PN/IE | | | - | 0 |
| | | PG/PC inter | rface: 🔛 | Realtek PCIe Gb | E Family | Controller | • | ۷ |
| ي طي | | Device filter | | | | | | |
| 1 | | 🛃 Only show dev | vices of the s | ame type | | | | |
| | | Only show dev | vices with ba | d parameter s | ettings | | | |
| | | Only show dev | | | | | | |
| | | | nees malout | nonnes | | | | |
| | | vices in the network: | | | | | | |
| | IP address | MAC address De | evice PF | OFINET device | name | Status | | |
| | | | | | | | | |
| I 🗾 | | | | | | | | |
| | | | | | | | | |
| Flash LED | | | | | | | | |
| | < | | | 111 | | | | |
| | | | | | Lind | late list | Annia | n name |
| | | | | | | | | |

Check to see if the MAC address on the module silkscreen is the same as the MAC address of the assigned device name.

- PROFINET Device Name: The name set in "Assign IP address and device name to slave".
- Type of PG/PC interface: PN/IE.
- PG/PC interface: the actual network adapter used.

c. Select the slave device in turn, click Update List, and click Assign Name. Check whether the status of the node is "OK" in "Accessible nodes in the network", as shown in the following figure.

| | | Configured PRO | FINET de | vice | | |
|--------------------------|----------------|-------------------------------------|------------|------------------------|------------------|-------------|
| | | PROFINET devic | e name: | gw6l-b0(l256) | | |
| | | Dev | vice type: | GW6L_80_L256 | | |
| | | Online access | | | | |
| | | Type of the PG/PC i | interface: | ₩_ PN/IE | | |
| | | PG/PC i | interface: | Realtek PCIe GbE F | amily Controller | • 🖲 🖸 |
| | | Device filter | | | | |
| | | Only show | devices of | the same type | | |
| | | Onlyshow | devices wi | th bad parameter setti | ngs | |
| | | | | , thout names | | |
| | | | | | | |
| _ | Accessible dev | ices in the network: MAC address | Device | PROFINET device na | me Status | |
| | 192.168.0.2 | 8C-F3-E7-20-00-04 | PNIO | gw6l-b0(l256) | OK OK | |
| | | | | <u></u> | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| - Hisch LED | | | | | | |
| T BERLEY | < | | | 11 | | |
| ninesh (540) | ٢ | | | | Update list | Assign name |
| - Medicae) | ٢ | | | 11 | Update list | |
| Novinteo | < | | | | Update list | |
| Plochue0 | | | | | Update list | |
| Online status informatio | | ere found. | | | Update list | |
| Online status informatio | n: | ere found. | | | Update list | |
| Online status informatio | n: | ere found. | | | Update list | Assign name |
| Online status informatio | n: | ere found. | | | Update list | |
| Online status informatio | n: | ere found. | 8 | | Update list | Assign name |

d. Click Close.

7. Download Configuration Structure

- a. In Network View, check PLC.
- b. Click the **D** button in the menu bar to download the current configuration to the PLC.
- c. In the "Extended Download to Device" pop-up screen, configure the following figure.

| | Configured access nod | es of "PLC_1" | | | | | |
|---------------------------|---------------------------------|------------------------|--------|---------------|----------------------|---------------------------|--------|
| | Device | Device type | Slot | Interface typ | e Address | Subnet | |
| | PLC_1 | CPU 1214C DC/D | 1 X1 | PN/IE | 192.168.0.1 | PN/IE_1 | |
| | | | | | | | |
| | т | ype of the PG/PC inte | rface: | PN/IE | | - |] |
| | | PG/PC inte | | Realtek PCIe | GbE Family Controlle | | |
| | Conne | ection to interface/su | bnet: | PN/IE_1 | | | 1 |
| | | 1st gat | eway: | | | v |) 🕐 |
| | Select target device: Device | Device type | Interf | ace type 🛛 A | Show all compatib | le devices Target devi | • |
| | - | - | PN/IE | | ccess address | - | |
| Flash LED | | | | | | | |
| nline status information: | | | | | Display only erro | | search |
| | | | | | | | |
| | | | | | | | |

| | Device | Device type | Slot | Interface type | Address | Subnet | |
|---|------------|---|----------------|----------------|------------------------------------|----------------------------|--------|
| | PLC_1 | CPU 1214C DC/D | 1 X1 | PN/IE | 192.168.0.1 | PN/IE_1 | |
| | | Type of the PG/PC inte | rface: | PN/IE | | |] |
| | | PG/PC inte | rface: | Realtek PCIe G | bE Family Controlle | er 💌 | |
| | | Connection to interface/su | bnet: | PN/IE_1 | | |) 💎 |
| | | 1st gat | eway: | | | v | 1 |
| | | | | | | | |
| | Device | Device type | | | dress | Target devic | e |
| | PLC_1 - | Device type CPU 1214C DC/D | | 19. | dress 2.168.0.1 tess address | Target devic PLC_1 — | e |
| Flash LED | | | . PN/IE | 19. | 2.168.0.1 | | e |
| Flash LED | | | . PN/IE | 19. | 2.168.0.1 | | |
| | P.C_1 | | . PN/IE | 19. | 2.168.0.1 | PLC_1 - | |
| nline status informa 🛙 Connection estal | PLC_1 | CPU 1214C DC/D | PN/IE PN/IE | 19. | 2.168.0.1 tess address | PLC_1 - | |
| nline status informa 문 Connection estal) Scan completed. | PLC_1 | CPU 1214C DC/D - with address 192.168.0.1. s of 3 accessible devices fou | PN/IE PN/IE | 19. | 2.168.0.1 tess address | PLC_1 - | search |

d. Click the "Start Search" button as shown below.

- e. Click on "Download".
- f. Select "Continue without synchronization" as shown below.

| ware synchronization before lo | ading to a device | |
|--------------------------------------|------------------------------|--|
| The CPU contains changes that c | annot be automatically synch | ironized. |
| <u>}</u> | | |
| Software synchronization | Status | Action |
| ▼ PLC_1 | | |
| 'Program blocks' | | |
| Main [OB1] | • | Manual synchronization required |
| 'PLC tags' | | |
| Tags | 0 | Manual synchronization required |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | W |
| | | |
| | | |
| | | |
| (0) | - C - 1 | |
| ffline/online comparison | Synchro | onize Continue without synchronization Cance |

g. Select "Stop All".

| Status | 1 | Target | Message | Action |
|--------|---|--------------------------------|---|---------------------|
| 1 | 9 | ▼ PLC_1 | Ready for loading. | Load 'PLC_1' |
| | 4 | Protection | Protection from unauthorized access | |
| | 4 | | Devices connected to an enterprise network or directly to the internet must be appropriately protected against unauthorized access, e.g. by use of firewalls and network segmentation. For more information about industrial security, please visit http://www.siemens.com/industrialsecurity | |
| | • | Stop modules | The modules are stopped for downloading to device. | Stop all 💌 |
| | • | Device configuration | Delete and replace system data in target | Download to device |
| | 0 | Software | Download software to device | Consistent download |
| < | | | III. | > |

- h. Click Load.
- i. Click Finish.
- j. Power the unit back up.

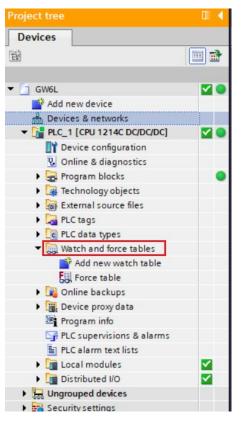
8、 communication connection

a. Click the LS button ,and then click the "Go Online" button, the connection is successful, as shown in the following figure.

| _ | roject <u>E</u> dit <u>V</u> iew <u>I</u> nsert <u>O</u> nline Option ¹ 💁 🔒 Save project 📑 💥 🗐 📬 🗙 | 7 | Window Help 1 < | Totally Integrated Automation PORTAL |
|---|--|--------------|--|---|
| | Project tree | | GW6L + Devices & networks | _ # = × |
| | Devices | | 🚪 Topology view | A Network view |
| | E | • | 💦 Network 🔢 Connections 🔣 HMI connection 💌 🗛 Relations 🕎 🖏 📲 🖽 🛄 🔍 ± | a |
| | | | 4 10 sy | ystem: PLC_1.PROFINET IO-System (100) 🛆 |
| | ▼ GW6L | 2 • ^ | | = |
| | Add new device | | | |
| | Devices & networks | | PLC_1 GW6L-B0(L256) CPU 1214C GW6L B0_L256 DP.WORM | |
| | PLC_1 [CPU 1214C DC/DC/DC] | | CPU 1214C GW6L_B0_L256 DP-NORM | |
| | Ingrouped devices | | | |
| | Security settings | = | | |
| | Cross-device functions | | PLC_1.PROFINET IO-Syste | |
| | Common data | | | 2 |
| | Documentation settings | | | two |
| | Languages & resources | | | - A C |
| | Version control interface | | | → ti _ ti |
| | ▼ 🔚 Online access | | | |
| | Y Display/hide interfaces | | | |
| | Realtek PCIe GbE Family Controller | | | |
| | Opdate accessible devices | | | |
| | P Display more information | | | |
| | Intel(R) Wi-Fi 6 AX201 160MHz | 100 | | |
| | PC internal [Local] | 100 | | |
| | USB [S7USB] | 100 | | |
| | TeleService [Automatic protocol d | 100 | | ~ |
| | Card Reader/USB memory | | < III > 100 |)% 💌 — |
| | | | Q Properties | 🗓 Info 👔 🗓 Diagnostics 📰 = 🗸 |
| | | ~ | | La magnostics |

9、 Viewing uplink and downlink data

a. Expand the left side of the project navigation, select "Monitor and Force Meter", as shown in the following figure.



b. Double-click "Add New Watch Table", the system adds a new monitor table, as shown in the following figure.

| Devices | | | | | | | | | |
|--|--------------------|---------|---------------|----------------|---------------|--------------|---|---------|-------|
| <u>تا</u> | 🔲 🖻 🔮 🔮 | ¥ 🏥 😼 Ь | 91 90 2 00 00 | | | | | | |
| | i | Name | Address | Display format | Monitor value | Modify value | 9 | Comment | Tag o |
| T GW6L | V 🕒 \land 1 | | Add new> | | | | | | |
| 💕 Add new device | | | | | | | | | |
| Devices & networks | | | | | | | | | |
| PLC_1 [CPU 1214C DC/DC/DC] | V O | | | | | | | | |
| Device configuration | | | | | | | | | |
| Online & diagnostics | | | | | | | | | |
| Program blocks | | | | | | | | | |
| Technology objects | | | | | | | | | |
| External source files | = | | | | | | | | |
| PLC tags | | | | | | | | | |
| PLC data types | | | | | | | | | |
| Watch and force tables | | | | | | | | | |
| Add new watch table | | | | | | | | | |
| Force table | | | | | | | | | |
| Watch table_1 | | | | | | | | | |
| 🕨 📴 Online backups | | | | | | | | | |
| 🕨 🔄 Traces | | | | | | | | | |
| OPC UA communication | | | | | | | | | |
| Device proxy data | | | | | | | | | |
| Program info | | | | | | | | | |
| PLC alarm text lists | | | | | | | | | |
| Local modules | V | | | | | | | | |
| Distributed I/O | V | | | | | | | | |
| Ungrouped devices | | | | | | | | | |
| 🕨 📷 Security settings | | | | | | | | | |
| Cross-device functions | | | | | | | | | |
| 🕨 🎑 Common data | | | | | | | | | |
| Documentation settings | | | | | | | | | |
| 🕨 🐻 Languages & resources | | | | | | | | | |
| Version control interface | < | | | | | | | | |

c. Open the Device View and check the channel Q address (channel address of the output signal) or I address (channel address of the input signal) of the module GW6L-B0(L256) in the device overview.

For example, the "Q address" of GW6L-B0(L256) module is 2 to 257, and the "I address" is 68 to 323, as shown in the following figure.

| Firmware | 4 |
|-----------|--------|
| Firmware | |
| Timmere | Commen |
| V10.00.00 | |
| | |
| 1.0 | |
| | |
| | |
| | |
| | 1.0 |

d. Input the address, data type and comments in the Address cell of the monitoring table to facilitate monitoring. You can refer to the definition of the uplink and downlink process data, enter the data

items in order, press the Enter key, and then click the button to monitor the data after all the fields are filled in.

e. The module's uplink data is shown below in the monitoring table to see if the data is coming in correctly.

| 🔮 🔮 🙋 🕼 | 0 91 % 2 9 9 | 7 | | | | | |
|---------|--------------|----------------|---------------|--------------|---|---------|---|
| i Name | Address | Display format | Monitor value | Modify value | 9 | Comment | |
| 1 | %IW68 | Hex | 16#0000 | | | | 1 |
| 2 | %IW70 | Hex | 16#0000 | | | | |
| 3 | %IW72 | Hex | 16#0000 | | | | - |
| 4 | %IW74 | Hex | 16#0000 | | | | |
| 5 | %IW76 | Hex | 16#0000 | | | | |
| 6 | %IW78 | Hex | 16#0000 | | | | |
| 7 | %IW80 | Hex | 16#0000 | | | | |
| 8 | %IW82 | Hex | 16#0000 | | | | |
| 9 | %IW84 | Hex | 16#0000 | | | | |
| 10 | %IW86 | Hex | 16#0000 | | | | |
| 11 | %IW88 | Hex | 16#0000 | | | | |
| 12 | %IW90 | Hex | 16#0000 | | | | |
| 13 | %IW92 | Hex | 16#0000 | | | | |
| 14 | %IW94 | Hex | 16#0000 | | | | |
| 15 | %IW96 | Hex | 16#0000 | | | | |
| 16 | %IW98 | Hex | 16#0000 | | | | |
| 17 | %IW100 | Hex | 16#0000 | | | | |
| 18 | %IW102 | Hex | 16#0000 | | | | |
| 19 | %IW104 | Hex | 16#0000 | | | | |
| 20 | %IW106 | Hex | 16#0000 | | | | |
| 21 | %IW108 | Hex | 16#0000 | | | | |
| 22 | %IW110 | Hex | 16#0000 | | | | |
| 23 | %IW112 | Hex | 16#0000 | | | | ~ |
| < | | | III | | | | > |

f. In this example, the range of 68~322 bytes in the uplink data is the input data, totaling 255 bytes; the 323rd byte, i.e., the last byte, is the status bit, as shown in the figure below.

| i Name | Address | Display format | Monitor value | Modify value | 9 | Comment | |
|--------|---------|----------------|---------------|--------------|---|---------|--|
| | %IW282 | Hex | 16#0000 | | | | |
| | %IW284 | Hex | 16#0000 | | | | |
| | %IW286 | Hex | 16#0000 | | | | |
| | %IW288 | Hex | 16#0000 | | | | |
| | %IW290 | Hex | 16#0000 | | | | |
| | %IW292 | Hex | 16#0000 | | | | |
| | %IW294 | Hex | 16#0000 | | | | |
| | %IW296 | Hex | 16#0000 | | | | |
| | %IW298 | Hex | 16#0000 | | | | |
| | %IW300 | Hex | 16#0000 | | | | |
| | %IW302 | Hex | 16#0000 | | | | |
| | %IW304 | Hex | 16#0000 | | | | |
| | %IW306 | Hex | 16#0000 | | | | |
| | %IW308 | Hex | 16#0000 | | | | |
| | %IW310 | Hex | 16#0000 | | | | |
| | %IW312 | Hex | 16#0000 | | | | |
| | %IW314 | Hex | 16#0000 | | | | |
| | %IW316 | Hex | 16#0000 | | | | |
| | %IW318 | Hex | 16#0000 | | | | |
| | %IW320 | Hex | 16#0000 | | | | |
| | %IW322 | Hex | 16#0000 | | | | |
| | %QW2 | Hex | 16#0000 | | | | |
| | %QW4 | Hex | 16#0000 | | | | |

g. The downlink data of the module is shown below in the monitoring table for forcing the output data as shown below.

| i Name | Address | Display format | Monitor value | Modify value | 9 | Comment | |
|--------|---------|----------------|---------------|--------------|---|---------|---|
| | %QW2 | Hex | 16#0000 | | | | ^ |
| | %QW4 | Hex | 16#0000 | | | | |
| | %QW6 | Hex | 16#0000 | | | | |
| | %QW8 | Hex | 16#0000 | | | | |
| I | %QW10 | Hex | 16#0000 | | | | |
| | %QW12 | Hex | 16#0000 | | | | |
| | %QW14 | Hex | 16#0000 | | | | |
| | %QW16 | Hex | 16#0000 | | | | |
| I | %QW18 | Hex | 16#0000 | | | | |
| I | %QW20 | Hex | 16#0000 | | | | |
| | %QW22 | Hex | 16#0000 | | | | |
| I | %QW24 | Hex | 16#0000 | | | | = |
| | %QW26 | Hex | 16#0000 | | | | |
| | %QW28 | Hex | 16#0000 | | | | |
| | %QW30 | Hex | 16#0000 | | | | |
| l | %QW32 | Hex | 16#0000 | | | | |
| I | %QW34 | Hex | 16#0000 | | | | |
| | %QW36 | Hex | 16#0000 | | | | |
| | %QW38 | Hex | 16#0000 | | | | |
| | %QW40 | Hex | 16#0000 | | | | |
| | %QW42 | Hex | 16#0000 | | | | |
| | %QW44 | Hex | 16#0000 | | | | |
| | %QW46 | Hex | 16#0000 | | | | ~ |

h. In the "Modify Value" cell enter the value, click the ²⁷ button to write, write the value, as shown in the figure below.

| i | Name | Address | Display format | Monitor value | Modify value | 9 | Comment | |
|---|------|---------|----------------|---------------|--------------|---|---------|---|
| 1 | | %QW2 | Hex | 16#FFFF | 16#FFFF | | 4 | ^ |
| 1 | | %QW4 | Hex | 16#FFFF | 16#FFFF | | 4 | |
| 1 | | %QW6 | Hex | 16#0000 | | | | |
| 1 | | %QW8 | Hex | 16#0000 | | | | |
| 1 | | %QW10 | Hex | 16#0000 | | | | |
| 1 | | %QW12 | Hex | 16#0000 | | | | |
| 1 | | %QW14 | Hex | 16#0000 | | | | |
| 1 | | %QW16 | Hex | 16#0000 | | | | |
| 1 | | %QW18 | Hex | 16#0000 | | | | |
| 1 | | %QW20 | Hex | 16#0000 | | | | |
| 1 | | %QW22 | Hex | 16#0000 | | | | |
| 1 | | %QW24 | Hex | 16#0000 | | | | = |
| 1 | | %QW26 | Hex | 16#0000 | | | | |
| 1 | | %QW28 | Hex | 16#0000 | | | | |
| 1 | | %QW30 | Hex | 16#0000 | | | | |
| 1 | | %QW32 | Hex | 16#0000 | | | | |
| 1 | | %QW34 | Hex | 16#0000 | | | | |
| 1 | | %QW36 | Hex | 16#0000 | | | | |
| 1 | | %QW38 | Hex | 16#0000 | | | | |
| 1 | | %QW40 | Hex | 16#0000 | | | | |
| 1 | | %QW42 | Hex | 16#0000 | | | | |
| 1 | | %QW44 | Hex | 16#0000 | | | | |
| 1 | | %QW46 | Hex | 16#0000 | | | | ~ |

7.2.1.4 data interaction

a. After establishing the communication connection, the value is written in the downlink data of TwinCAT3 software and the output data is shown below.

| Solution Explorer 👻 👎 🗙 | TwinCAT Pro | oject1 ≄ × | | | | | | |
|---|--------------|----------------|--------|------|----------|--------|---------|-----------|
| 000 jo- 1 1 - | Name | Online | Туре | Size | >Address | In/Out | User ID | Linked to |
| Search Solution Explorer (Ctrl+;) | ■ 000 | 43981 (0xabcd) | UINT | 2.0 | 39.0 | Output | 0 | |
| search solution explorer (cur+,) | ■ O01 | 65535 (0xffff) | UINT | 2.0 | 41.0 | Output | 0 | |
| Solution 'TwinCAT Project1' (1 project) | ₽ 002 | 0 (0x0000) | UINT | 2.0 | 43.0 | Output | 0 | |
| TwinCAT Project1 | ■O03 | 0 (0x0000) | UINT | 2.0 | 45.0 | Output | 0 | |
| SYSTEM | ₽ 004 | 0 (0x0000) | UINT | 2.0 | 47.0 | Output | 0 | |
| MOTION | ■ 005 | 0 (0x0000) | UINT | 2.0 | 49.0 | Output | 0 | |
| PLC SAFETY | ₽ 006 | 0 (0x0000) | UINT | 2.0 | 51.0 | Output | 0 | |
| SAFETY | ■ 007 | 0 (0x0000) | UINT | 2.0 | 53.0 | Output | 0 | |
| ▲ 🔀 I/O | ■ O08 | 0 (0x0000) | UINT | 2.0 | 55.0 | Output | 0 | |
| Devices | ■ 009 | 0 (0x0000) | UINT | 2.0 | 57.0 | Output | 0 | |
| Device 2 (EtherCAT) | ■ O0a | 0 (0x0000) | UINT | 2.0 | 59.0 | Output | 0 | |
| timage | ■ 00b | 0 (0x0000) | UINT | 2.0 | 61.0 | Output | 0 | |
| 🚼 Image-Info | ■ O0c | 0 (0x0000) | UINT | 2.0 | 63.0 | Output | 0 | |
| SyncUnits | ■ O0d | 0 (0x0000) | UINT | 2.0 | 65.0 | Output | 0 | |
| Inputs | ■ O0e | 0 (0x0000) | UINT | 2.0 | 67.0 | Output | 0 | |
| Outputs | ■ O0f | 0 (0x0000) | UINT | 2.0 | 69.0 | Output | 0 | |
| 👂 🛄 InfoData | ■O10 | 0 (0x0000) | UINT | 2.0 | 71.0 | Output | 0 | |
| Box 1 (GW6L-A0(L256)) | ■ 011 | 0 (0x0000) | UINT | 2.0 | 73.0 | Output | 0 | |
| Inputs | ₽ 012 | 0 (0x0000) | UINT | 2.0 | 75.0 | Output | 0 | |
| Outputs | ■ 013 | 0 (0x0000) | UINT | 2.0 | 77.0 | Output | 0 | |
| WcState InfoData | ■ 014 | 0 (0x0000) | UINT | 2.0 | 79.0 | Output | 0 | |
| Mappings | ■O15 | 0 (0x0000) | UINT | 2.0 | 81.0 | Output | 0 | |
| Mappings | ■O16 | 0 (0x0000) | UINT | 2.0 | 83.0 | Output | 0 | |
| | © 017 | 0 (0x0000) | UINT | 2.0 | 85.0 | Output | 0 | |
| | ■O18 | 0 (0x0000) | UINT | 2.0 | 87.0 | Output | 0 | |
| | ■ 019 | 0 (0x0000) | UINT | 2.0 | 89.0 | Output | 0 | |
| | E O15 | 0 (0,0000) | LIINIT | 20 | 01.0 | Output | 0 | |

b. In the monitoring table of the TIA Portal V17 software, check the uplink data to confirm that the data is entered into the gateway module, as shown in the following figure, the data has been passed in.

| i Nam | e Address | Display format | Monitor value | Modify value | 9 | Comment | |
|-------|-----------|----------------|---------------|--------------|---|---------|---|
| 1 | %IW68 | Hex | 16#CDAB | | | | ^ |
| 2 | %IW70 | Hex | 16#FFFF | | | | - |
| 3 | %IW72 | Hex | 16#0000 | | | | |
| 4 | %IW74 | Hex | 16#0000 | | | | |
| 5 | %IW76 | Hex | 16#0000 | | | | |
| 6 | %IW78 | Hex | 16#0000 | | | | |
| 7 | %IW80 | Hex | 16#0000 | | | | |
| В | %IW82 | Hex | 16#0000 | | | | |
| 9 | %IW84 | Hex | 16#0000 | | | | |
| 10 | %IW86 | Hex | 16#0000 | | | | |
| 11 | %IW88 | Hex | 16#0000 | | | | |
| 12 | %IW90 | Hex | 16#0000 | | | | |
| 13 | %IW92 | Hex | 16#0000 | | | | |
| 14 | %IW94 | Hex | 16#0000 | | | | |
| 15 | %IW96 | Hex | 16#0000 | | | | |
| 16 | %IW98 | Hex | 16#0000 | | | | |
| 17 | %IW100 | Hex | 16#0000 | | | | |
| 18 | %IW102 | Hex | 16#0000 | | | | |
| 19 | %IW104 | Hex | 16#0000 | | | | |
| 20 | %IW106 | Hex | 16#0000 | | | | |
| 21 | %IW108 | Hex | 16#0000 | | | | |
| 22 | %IW110 | Hex | 16#0000 | | | | |
| 23 | %IW112 | Hex | 16#0000 | | | | ~ |

c. At this point, the last status bit byte of the TIA Portal V17 software uplink data is 16#01 indicating that there is data interaction between the gateways, as shown in the following figure.

| i Name | Address | Display format | Monitor value | Modify value | 9 | Comment | |
|--------|---------|----------------|---------------|--------------|---|---------|---|
| | %IW280 | Hex | 16#0000 | | | | ^ |
| - | %IW282 | Hex | 16#0000 | | | | |
| | %IW284 | Hex | 16#0000 | | | | |
| | %IW286 | Hex | 16#0000 | | | | |
| | %IW288 | Hex | 16#0000 | | | | |
| | %IW290 | Hex | 16#0000 | | | | |
| - | %IW292 | Hex | 16#0000 | | | | |
| | %IW294 | Hex | 16#0000 | | | | |
| | %IW296 | Hex | 16#0000 | | | | |
| | %IW298 | Hex | 16#0000 | | | | = |
| | %IW300 | Hex | 16#0000 | | | | |
| | %IW302 | Hex | 16#0000 | | | | |
| | %IW304 | Hex | 16#0000 | | | | |
| | %IW306 | Hex | 16#0000 | | | | |
| | %IW308 | Hex | 16#0000 | | | | |
| - | %IW310 | Hex | 16#0000 | | | | |
| | %IW312 | Hex | 16#0000 | | | | |
| | %IW314 | Hex | 16#0000 | | | | |
| | %IW316 | Hex | 16#0000 | | | | |
| | %IW318 | Hex | 16#0000 | | | | |
| | %IW320 | Hex | 16#0000 | | | | |
| | %IW322 | Hex | 16#0100 | | | | |
| | %QW2 | Hex | 16#CDAB | | | | ~ |

| i Name | Address | Display format | Monitor value | Modify value | 9 | | Comment | |
|--------|---------|----------------|---------------|--------------|---|---|---------|---|
| 1 | %QW2 | Hex | 16#FFFF | 16#FFFF | | 4 | | 1 |
| 1 | %QW4 | Hex | 16#FFFF | 16#FFFF | | 4 | | |
| 1 | %QW6 | Hex | 16#0000 | | | | | |
| 1 | %QW8 | Hex | 16#0000 | | | | | |
| 1 | %QW10 | Hex | 16#0000 | | | | | |
| 1 | %QW12 | Hex | 16#0000 | | | | | |
| 1 | %QW14 | Hex | 16#0000 | | | | | |
| 1 | %QW16 | Hex | 16#0000 | | | | | |
| 1 | %QW18 | Hex | 16#0000 | | | | | |
| 1 | %QW20 | Hex | 16#0000 | | | | | |
| 1 | %QW22 | Hex | 16#0000 | | | | | |
| 1 | %QW24 | Hex | 16#0000 | | | | | Ξ |
| 1 | %QW26 | Hex | 16#0000 | | | | | |
| 1 | %QW28 | Hex | 16#0000 | | | | | |
| 1 | %QW30 | Hex | 16#0000 | | | | | |
| 1 | %QW32 | Hex | 16#0000 | | | | | |
| 1 | %QW34 | Hex | 16#0000 | | | | | |
| 1 | %QW36 | Hex | 16#0000 | | | | | |
| 1 | %QW38 | Hex | 16#0000 | | | | | |
| 1 | %QW40 | Hex | 16#0000 | | | | | |
| 1 | %QW42 | Hex | 16#0000 | | | | | |
| 1 | %QW44 | Hex | 16#0000 | | | | | |
| 1 | %QW46 | Hex | 16#0000 | | | | | ` |

d. In the monitoring table of the TIA Portal V17 software, write the downlink data as shown below.

e. Check the uplink data in TwinCAT3 software to confirm that the data has been entered into the gateway module, as shown in the following figure, the data has been passed in.

| Solution Explorer 🔹 🖣 🗙 | TwinCAT P | roject1 👍 🗙 | | | | | | |
|---|------------------|----------------|------|------|----------|--------|---------|-----------|
| © ⊂ ∰ To + ∰ -= | Name | Online | Туре | Size | >Address | In/Out | User ID | Linked to |
| Search Solution Explorer (Ctrl+;) | 100 | 65535 (0xffff) | UINT | 2.0 | 39.0 | Input | 0 | |
| | 101 | 65535 (0xffff) | UINT | 2.0 | 41.0 | Input | 0 | |
| Solution 'TwinCAT Project1' (1 project) | × 102 | 0 (0x0000) | UINT | 2.0 | 43.0 | Input | 0 | |
| TwinCAT Project1 | 103 | 0 (0x0000) | UINT | 2.0 | 45.0 | Input | 0 | |
| ▷ O SYSTEM | ≈ 104 | 0 (0x0000) | UINT | 2.0 | 47.0 | Input | 0 | |
| MOTION | ≈ 105 | 0 (0x0000) | UINT | 2.0 | 49.0 | Input | 0 | |
| | ≈ 106 | 0 (0x0000) | UINT | 2.0 | 51.0 | Input | 0 | |
| SAFETY | 107 | 0 (0x0000) | UINT | 2.0 | 53.0 | Input | 0 | |
| | 801 💌 | 0 (0x0000) | UINT | 2.0 | 55.0 | Input | 0 | |
| Devices | 109 | 0 (0x0000) | UINT | 2.0 | 57.0 | Input | 0 | |
| ✓ ➡ Device 2 (EtherCAT) | 💌 10a | 0 (0x0000) | UINT | 2.0 | 59.0 | Input | 0 | |
| tmage | 🕶 10b | 0 (0x0000) | UINT | 2.0 | 61.0 | Input | 0 | |
| Image-Info | 🕶 10c | 0 (0x0000) | UINT | 2.0 | 63.0 | Input | 0 | |
| SyncUnits | 🕶 10d | 0 (0x0000) | UINT | 2.0 | 65.0 | Input | 0 | |
| Inputs | ≈ 10e | 0 (0x0000) | UINT | 2.0 | 67.0 | Input | 0 | |
| Outputs | 🕶 lOf | 0 (0x0000) | UINT | 2.0 | 69.0 | Input | 0 | |
| 👂 🛄 InfoData | ≈ 110 | 0 (0x0000) | UINT | 2.0 | 71.0 | Input | 0 | |
| Box 1 (GW6L-A0(L256)) | 111 | 0 (0x0000) | UINT | 2.0 | 73.0 | Input | 0 | |
| Inputs | ≈ 112 | 0 (0x0000) | UINT | 2.0 | 75.0 | Input | 0 | |
| Outputs | ≈ I13 | 0 (0x0000) | UINT | 2.0 | 77.0 | Input | 0 | |
| V State | 2 114 | 0 (0x0000) | UINT | 2.0 | 79.0 | Input | 0 | |
| | # 115 | 0 (0x0000) | UINT | 2.0 | 81.0 | Input | 0 | |
| Mappings | 116 | 0 (0x0000) | UINT | 2.0 | 83.0 | Input | 0 | |
| | 2 117 | 0 (0x0000) | UINT | 2.0 | 85.0 | Input | 0 | |
| | 118 | 0 (0x0000) | UINT | 2.0 | 87.0 | Input | 0 | |
| | 119 | 0 (0x0000) | UINT | 2.0 | 89.0 | Input | 0 | |
| | - 11 - | 0 (0,0000) | LUNT | 20 | 01.0 | Input | 0 | |

f. At this time, the last status bit byte of the TwinCAT3 software uplink data is 0x01 (Hex) indicating that there is data interaction between the gateways, as shown in the following figure.

| Solution Explorer 🔹 👎 🗙 | TwinCAT Pr | oject1 😐 🗙 | | | | | | |
|--|------------------|--------------|------|------|----------|--------|---------|-----------|
| ○ ○ ☆ io - i ● / - | Name | Online | Туре | Size | >Address | In/Out | User ID | Linked to |
| Search Solution Explorer (Ctrl+;) | ≈ 166 | 0 (0x0000) | UINT | 2.0 | 243.0 | Input | 0 | |
| | • 167 | 0 (0x0000) | UINT | 2.0 | 245.0 | Input | 0 | |
| Solution 'TwinCAT Project1' (1 project) | ≈ 168 | 0 (0x0000) | UINT | 2.0 | 247.0 | Input | 0 | |
| TwinCAT Project1 | ≈ 169 | 0 (0x0000) | UINT | 2.0 | 249.0 | Input | 0 | |
| SYSTEM | 🕶 l6a | 0 (0x0000) | UINT | 2.0 | 251.0 | Input | 0 | |
| MOTION PLC | 🕶 l6b | 0 (0x0000) | UINT | 2.0 | 253.0 | Input | 0 | |
| SAFETY | * l6c | 0 (0x0000) | UINT | 2.0 | 255.0 | Input | 0 | |
| SALETT | 🕫 l6d | 0 (0x0000) | UINT | 2.0 | 257.0 | Input | 0 | |
| | * 16e | 0 (0x0000) | UINT | 2.0 | 259.0 | Input | 0 | |
| Devices | 🕶 l6f | 0 (0x0000) | UINT | 2.0 | 261.0 | Input | 0 | |
| Device 2 (EtherCAT) | ≈ 170 | 0 (0x0000) | UINT | 2.0 | 263.0 | Input | 0 | |
| 📑 🗸 Image | ≈ 171 | 0 (0x0000) | UINT | 2.0 | 265.0 | Input | 0 | |
| 🛟 Image-Info | ≠ 172 | 0 (0x0000) | UINT | 2.0 | 267.0 | Input | 0 | |
| SyncUnits | ∞ I73 | 0 (0x0000) | UINT | 2.0 | 269.0 | Input | 0 | |
| Inputs | ≈ 174 | 0 (0x0000) | UINT | 2.0 | 271.0 | Input | 0 | |
| Outputs | ≈ 175 | 0 (0x0000) | UINT | 2.0 | 273.0 | Input | 0 | |
| InfoData | 176 | 0 (0x0000) | UINT | 2.0 | 275.0 | Input | 0 | |
| Box 1 (GW6L-A0(L256)) | ∞ 177 | 0 (0x0000) | UINT | 2.0 | 277.0 | Input | 0 | |
| Dutputs Outputs | ≈ 178 | 0 (0x0000) | UINT | 2.0 | 279.0 | Input | 0 | |
| Outputs WcState | ≈ 179 | 0 (0x0000) | UINT | 2.0 | 281.0 | Input | 0 | |
| InfoData | 💌 17a | 0 (0x0000) | UINT | 2.0 | 283.0 | Input | 0 | |
| and Mappings | 🕶 l7b | 0 (0x0000) | UINT | 2.0 | 285.0 | Input | 0 | |
| - mappings | ≈ 17c | 0 (0x0000) | UINT | 2.0 | 287.0 | Input | 0 | |
| | 🕶 l7d | 0 (0x0000) | UINT | 2.0 | 289.0 | Input | 0 | |
| | ≈ 17e | 0 (0x0000) | UINT | 2.0 | 291.0 | Input | 0 | |
| | 🕶 l7f | 256 (0x0100) | UINT | 2.0 | 293.0 | Input | 0 | |

7.2.2 GW6L-B0C0(L256) in TIA Portal V17 and KV STUDIO software

environment

7.2.2.1 preliminary

- hardware environment
 - Module preparation
 This description uses the GW6L-B0C0(L256) Gateway Kit as an example
 - Two computers, one pre-installed with KV STUDIO Ver.10G software and one pre-installed with TIA Portal V17 software
 - Shielded cables for EtherNet/IP
 - > Shielded cables for PROFINET
 - One Siemens PLC
 This description is based on the example of Siemens S7-1200 CPU 1214C DC/DC/DC
 - > One Keens PLC
 - This description takes the KV-8000 as an example
 - > Two switching power supplies
 - > Module mounting rails and rail mounts
 - > Device Configuration Files

Configuration file access: https://www.solidotech.com/documents/configfile

Hardware configuration and wiring
 Follow "5 Installation and uninstall" and "6 Wiring".

7.2.2.2Communication connection in TIA Portal V17 software

1. New construction

a. Open the TIA Portal V17 software and click "Create New Project" .

| | Create new project | | |
|-----------------------|---------------------|--------------------------|--------|
| Open existing project | Project name: | GW6L | |
| Open existing project | Path: | C:\Users\29719\Documents | |
| 🥚 Create new project | Version: | V17 | |
| Migrate project | Author: Comment: | Administrator | |
| Close project | | | ~ |
| Welcome Tour | | | Create |
| First steps | | | |

- Project name: customizable, can be left as default.
- Path: the project keeps the path, which can be left as default.
- Version: can be left as default.
- AUTHOR: The default can be maintained.
- Comment: Customizable, may not be filled in.

2、 Adding a PLC controller

a. Click "Configure A Device", as shown in the following figure.

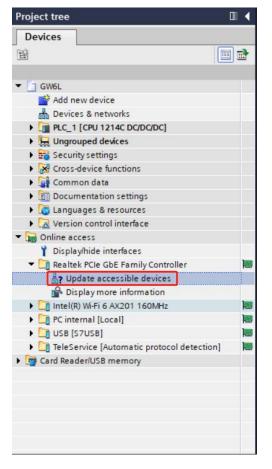
| Start | | | First steps |
|-------------------------|----------|---|--|
| Devices & networks | 1 | Open existing project Create new project | Project: "GW6L" was opened successfully. Please select the next step: |
| PLC programming | ? | Migrate project | Start |
| Motion & technology | * | Close project | Devices & Configure a device |
| Visualization | Í | Welcome Tour First steps | networks |
| Online & Diagnostics | 10 | This steps | |
| | | Installed software Help | Motion & technology Configure technology objects Visualization Configure an HMI screen |
| | | | Visualization Configure an HMI screen |

b. Click "Add New Device", select the PLC model you are currently using, and click "Add", as shown in the following figure. After adding, you can see that the PLC has been added to the device navigation tree.

| | | CPU 1211C DC/DC/Rly | | | |
|--------------------|------------|--|---|---------------|---|
| Show all devices | | CPU 1212C AC/DC/Rly | | | CPU 1214C DC/DC/DC |
| | | CPU 1212C DC/DC/DC | | | C101214C000000C |
| Add new device | | CPU 1212C DC/DC/Rly | | | |
| | | CPU 1214C AC/DC/Rly | | Article no.: | 6ES7 214-1AG40-0XB0 |
| | HMI | CPU 1214C DC/DC/DC | | Version: | V4.5 |
| | | 6ES7 214-1AE30-0XB0 | = | | |
| | | 6ES7 214-1AG31-0XB0 | | Description: | |
| | | 6ES7 214-1AG40-0XB0 | | | 100 KB; 24VDC power supply with |
| | | CPU 1214C DC/DC/Rly | | | SINK/SOURCE, DQ10 x 24VDC and 6 high-speed counters and 4 pulse |
| | _ | CPU 1215C AC/DC/Rly | | | pard; signal board expands on- |
| Configure networks | PC systems | CPU 1215C DC/DC/DC | | | to 3 communication modules for |
| | | CPU 1215C DC/DC/Rly | | | inication; up to 8 signal modules ion; PROFINETIO controller, I- |
| | | CPU 1217C DC/DC/DC | | | port protocol TCP/IP, secure Open |
| | | CPU 1212FC DC/DC/DC | | | nication, S7 communication, Web |
| | | CPU 1212FC DC/DC/Rly | | server, OPC L | IA: Server DA |
| | | CPU 1214FC DC/DC/DC | | | |
| | | CPU 1214FC DC/DC/Rly | | | |
| | | CPU 1215FC DC/DC/DC | | | |
| Help | | CPU 1215FC DC/DC/Rly | | | |
| neh | | CPU SIPLUS | | | |
| | | CPU SIPLUS RAIL | | | |
| | | | ~ | | |

3、 Scanning connected devices

a. Click "Online Access -> Update Accessible Devices" in the left navigation tree as shown below.



b. When the update is complete, the connected slave devices are displayed, as shown in the following figure.

| | | GW6L → PL | C_1 [CPU 1214C DC/DC/DC] | | | | | | | | - • • |
|--|-----|-----------|-----------------------------------|-------------|--------------|----------------|------------------------|---------------------|------------|------------|------------|
| Devices | | | | | | | 🛃 Тор | ology view 🔥 Ne | twork view | // 🕅 De | evice view |
| | | Device | e overview | | | | | | | | |
| | | | Module | Slot | I address | Q address | Туре | Article no. | Firmware | Comment | |
| GW6L | | | | 103 | | | | | | | |
| Add new device | | | | 102 | | | | | | | |
| Devices & networks | | | | 101 | | | | | | | |
| [PLC_1 [CPU 1214C DC/DC/DC] | | | ▼ PLC_1 | 1 | | | CPU 1214C DC/DC/DC | 6ES7 214-1AG40-0XB0 | V4.5 | | |
| La Ungrouped devices | | | DI 14/DQ 10_1 | 11 | 01 | 01 | DI 14/DQ 10 | | | | |
| Security settings | | | AI 2_1 | 12 | 6467 | | AI 2 | | | | |
| Cross-device functions | | | | 13 | | | | | | | |
| Common data | | | HSC_1 | 1 16 | 100010 | | HSC | | | | |
| Documentation settings | | | HSC_2 | 1 17 | 100410 | | HSC | | | | |
| Languages & resources | | e c | HSC_3 | 1 18 | 100810 | | HSC | | | | |
| Za Version control interface | | evic | HSC_4 | 1 19 | 101210 | | HSC | | | | |
| Online access | | ă - | HSC 5 | 1 20 | 101610 | | HSC | | | | |
| Y Display/hide interfaces | | | HSC_6 | 1 21 | 102010 | | HSC | | | | |
| Realtek PCIe GbE Family Controller | | | Pulse_1 | 1 32 | | 100010 | Pulse generator (PTO/P | | | | |
| 2 Update accessible devices | | | Pulse 2 | 1 33 | | 100210 | Pulse generator (PTO/P | | | | |
| Pisplay more information | | | Pulse_3 | 1 34 | | 100410 | Pulse generator (PTO/P | | | | |
| plc_1 [192.168.0.1] | | | Pulse_4 | 1 35 | | | Pulse generator (PTO/P | | | | |
| pnio [192.168.0.2] | | | OPC UA | 1 254 | | | OPC UA | | | | |
| Intel(R) Wi-Fi 6 AX201 160MHz | | | PROFINET interface_1 | 1 X1 | | | PROFINET interface | | | | |
| PC internal [Local] | | | | 2 | | | | | | | |
| USB [S7USB] | | | | 3 | | | | | | | |
| TeleService [Automatic protocol detection] | 100 | < | | - | | | | | | | |
| 📴 Card Reader/USB memory | | | | | | | | | | | |
| | | | | | | | <u>g</u> p | roperties 🚺 Info | 1 1 D | iagnostics | |
| | | General | Cross-references C | ompile | | | | | | | |
| | | 3 1 0 | Show all messages | | | | | | | | |
| | | | Show an messages | | | | | | | | |
| | | ! Message | | | | | | Go to | 2 | Date | Time |
| | | | t GW6Lcreated. | | | | | 0010 | | 1/17/2024 | 1:19:05 PM |
| | | | ing for devices on interface Real | tek PCIe Cl | E Family Con | troller was st | tarted | | | 1/17/2024 | 1:32:58 PM |
| | | | ing for devices completed for int | | | | | | | 1/17/2024 | 1:32:56 PM |

The IP address of the computer must be in the same network segment as the PLC, if not, modify the IP address of the computer and repeat the above steps.

4. Adding a GSD Configuration File

- a. In the menu bar, select "Options -> Manage General Station Description File (GSDML) (D)".
- b. Click Source Path to select the file.
- c. Check if the status of the GSD file you want to add is "Not yet installed", click Install if it is not installed, or Cancel if it is already installed to skip the installation step.

| Manage general station description files | | | | × |
|--|---------|----------|-------------------|----|
| Installed GSDs GSDs in the project | | | | |
| Source path: D:\ | | | | |
| Content of imported path | | | | |
| File | Version | Language | Status | |
| GSDML-V2.3-Sdot-GW6L_B0(L256)-20230531.xml | V2.3 | English | Not yet installed | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| < | | | | > |
| | | | | |
| | | Delete | Install Cano | el |
| | | | | |

5. Adding Slave Devices

- a. Double-click on "Devices & Networks" in the left navigation tree.
- b. Click the "Hardware Catalog" vertical button on the right, the catalog is displayed as shown below.

| | | GW6L Devices & networks | _ # =× | Hardware catalog 🛛 🗊 🔟 |
|--|-----|--|-------------|-------------------------------|
| Devices | | 🛃 Topology view 🛛 🚠 Network view | Device view | Options |
| a) | 🔳 🖹 | 💦 Network 🔢 Connections 🔣 HMI connection 💌 💀 Relations 🕎 👯 📲 🖽 🔢 🔍 生 | E | 5 |
| | | | ^ | ✓ Catalog |
| GW6L | | | | <search></search> |
| Add new device | | | - | Filter Profile: All> |
| devices & networks | | PLC_1 CPU 1214C | | |
| PLC_1 [CPU 1214C DC/DC/DC] | | | | Controllers |
| Ungrouped devices | | | | HMI |
| Security settings | | | | PC systems |
| Cross-device functions | | | | Drives & starters |
| Common data | | | | Network components |
| Documentation settings | | | | Detecting & Monitoring |
| Languages & resources | | | | Distributed I/O |
| Version control interface | | | | Power supply and distribution |
| 🙀 Online access | | | | Field devices |
| Y Display/hide interfaces | | | - Cep | Other field devices |
| Realtek PCIe GbE Family Controller | 1 | | | |
| PUpdate accessible devices | | | l i a | |
| Pisplay more information | | | - 5 | |
| plc_1 [192.168.0.1] | | | | |
| pnio [192.168.0.2] | | | | |
| S Online & diagnostics | | | | |
| Intel(R) Wi-Fi 6 AX201 160MHz | | | | |
| PC internal [Local] | | | | |
| USB [S7USB] | | | | |
| TeleService [Automatic protocol detection] | | | | |
| Card Reader/USB memory | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | ~ | |

- c. Select "Other field devices -> PROFINET IO -> Gateway -> Sdot -> X-Bus -> GW6L-B0(L256)".
- d. Drag or double-click "GW6L-B0(L256)" to the "Network View" as shown below.

| Devices | Topology view Network view 🕅 Device view | Options | |
|---|--|-------------------------------|------------------|
| 1 I I I I I I I I I I I I I I I I I I I | Network 🔛 Connections HMI connection 💌 💀 Relations 🖽 🎽 | | Hardware catalog |
| | ▲ | ✓ Catalog | dwa |
| - GW6L | | fini fini | 0 |
| 🚔 Add new device | | | a |
| devices & networks | PLC_1 PNIO CPU 1214C GW6L_B0_L256 DP.NORM | Filter Profile: All> | alo |
| PLC_1 [CPU 1214C DC/DC/DC] | | Power supply and distribution | . <u>u</u> |
| Ungrouped devices | Not assigned | Field devices | |
| Security settings | | Other field devices | ۷. |
| Cross-device functions | | Additional Ethernet devices | 0 |
| Unassigned devices | | ✓ Im PROFINET IO | 1 |
| Common data | | Drives | le |
| Documentation settings | 4 2 | Encoders | Online tools |
| Languages & resources | - 2 | Gateway | s |
| Version control interface | 4 8 | → 🛅 1/0 | |
| Online access | | BAYMRS | |
| Card Reader/USB memory | | 👻 🛅 Sdot 📃 | Tasks |
| | | IOL7 PN Gateway | sks |
| | | 🕨 🧊 SK-PN | |
| | | 🗸 🛅 X-Bus | m |
| | | GW6L_B0_L256 | - |
| | | XB6-PN0002 | ibr |
| | | SIEMENS AG | Libraries |
| | | SOLIDOT | Sa |
| | ~ | | |

e. Click "Not assigned (blue font)" on the slave device and select "PLC_1.PROFINET Interface_1" as shown below.

| | 🚰 Topology view 🛛 🛔 Network view 🛛 🏦 Dev | ice view |
|----------------------|--|----------|
| Network L Connection | s HM connection 💌 🗛 Relations 🕎 👯 📲 🛄 🍳 🛨 | |
| | | ^ |
| | | = |
| PLC_1 CPU 1214C | PNIO | |
| | GW6L_B0_L256 DP-NORM | |
| | Not assigned Select IO controller PLC_1.PROFINET interface_1 | |
| | | |

f. When the connection is complete, it is shown below.

| GW6L > Devices & netwo | ks | _ = = × |
|------------------------|--|----------------|
| | 🛃 Topology view 🛛 🛔 Network view 🛛 🏠 Dev | ice view |
| Network | HMI connection 💌 🗛 Relations 🕎 🖫 🖬 🛄 🍳 🛨 | |
| | 4 IO system: PLC_1.PROFINET IO-System | (100) ^ |
| | | = |
| PLC_1 CPU 1214C | PNIO GW6L_B0_L256 PLC_1 | Network data |

g. Click on the device name to rename the device, as shown in the following figure.

| GW6L → Devices & networks | ∎× |
|--|--------|
| 🛃 Topology view 🛛 🚠 Network view 📑 Device vie | ew |
| 💦 Network 👖 Connections HMI connection 💌 🗛 Relations 🕎 🖏 📲 📰 🛄 🔍 ± 📑 | |
| IO system: PLC_1.PROFINET IO-System (100) | ^ |
| | = |
| PLC_1 CPU 1214C GW6L_B0_L256 DP-NORM PLC_1 | |
| PLC 1.PROFINETIO-Syste | |
| | Z |
| | twor |
| | k data |

h. Click "Device overview" to enter the device overview, you can see the topology configuration information, including the I/O address automatically assigned by the system, the I/O address can be changed by yourself, as shown in the following figure.

| | | | 📲 To | pology vie | w 🚠 N | letwork view | Device view |
|------|-----------------------------------|----------|------|------------|-----------|--------------|----------------|
| Devi | ce overview | | | | | | |
| * | Module | Rack | Slot | I address | Q address | Туре | Article number |
| | GW6L-B0(L256) | 0 | 0 | | | GW6L_B0_L256 | 1234567 |
| | PN-IO | 0 | 0 X1 | | | PNIO | |
| | IN/OUT_1 | 0 | 1 | 68323 | 2257 | IN/OUT | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

6. Assign device name

a. Switch to "Network View", right-click the connection cable between PLC and GW6L-B0(L256), and select "Assign Device Name".

| GW6L > Devices & networks | | | - | - • | × |
|---|------------------------------------|------------------|-----------------|--------|-------|
| | Topology view | Network view | v 🚺 Devic | e view | / |
| Network Connections HMI connection | Relations | 2 3 1 5 | ∃ 🛄 🔍 ± | | |
| | | | T IO-System (10 | 00) ^ | |
| | | _ | | | |
| | | | | ≡ | |
| PLC_1 GW6L-B0(L2 CPU 1214C GW6L_B0_L | | | | | |
| PLC_1 | 256 DP-NORM | | | | |
| <u>100_1</u> | | | | | |
| | | | | | |
| PLC_1.PROFINET IO- | Svete | | | | |
| | Cut | Ctrl+X Ctrl+C | | | |
| | Copy Paste | Ctrl+V | | | - two |
| | | | | | |
| × | Delete Rename | Del F2 | | | , qa |
| | | | | | |
| | Assign to new DP master / IC | O controller | | | |
| | Compile | • | | | |
| | Download to device | • | | | |
| × | Go online | Ctrl+K | | - 1 | |
| | Go offline Online & diagnostics | Ctrl+M Ctrl+D | | | |
| 1.20 | Assign device name | Ctri+D | | | |
| | Assign PROFIsafe address | | | | |
| i i i i i i i i i i i i i i i i i i i | Receive alarms | | | ~ | |
| < III | Update and display forced o | perands | • . | - 🗉 | |
| | Show catalog | Ctrl+Shift+C | agnostics | | |
| devices & ne | Properties | Alt+Enter | Project GW6L op | ened. | |

b. The "Assign PROFINET Device Name" window pops up as shown below.

| Assign PROFINET device | name. | | | | | | | | × |
|---------------------------|----------------|-----------------------|------------|--------------------|-----------|------------|-------------|----------|---|
| | | Configured PRO | FINET de | vice | | | | | |
| | | PROFINET devic | e name: | gw6l-b0(l256) | | | • | | |
| | | Dev | ice type: | GW6L-B0(L256) | | | | | |
| | | Online access | | | | | | | |
| | | Type of the PG/PC i | nterface: | PN/IE | | | - | | |
| | | PG/PC i | nterface: | Realtek PCIe G | bE Family | Controller | - |] 🖲 🖸 | |
| | | Device filter | | | | | | | |
| 8 | | Only show | devices of | the same type | | | | | |
| | | | | th bad parameter s | settings | | | | |
| | | | | thout names | | | | | |
| | Accessible dev | vices in the network: | | | | | | | |
| | IP address | MAC address | Device | PROFINET device | e name | Status | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| Flash LED | | | | | | | | | |
| | < | | | | | | | | > |
| | | | | | Upo | date list | Ass | ign name | |
| | | | | | | | | | |
| | | | | | | | | | |
| Online status information | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| < | | | 111 | | | | | | > |
| | | | | | | | | | |
| | | | | | | | | Close | |
| | | | | | | | - toosootoo | | |

Check to see if the MAC address on the module silkscreen is the same as the MAC address of the assigned device name.

- PROFINET Device Name: The name set in "Assign IP address and device name to slave".
- Type of PG/PC interface: PN/IE.
- PG/PC interface: the actual network adapter used.
- c. Select the slave device in turn, click Update List, and click "Assign Name". Check whether the status of the node is "OK" in "Accessible nodes in the network", as shown in the following figure.

| | | PROFINET | ce name: | gw6l-b0(l256) | | - |
|-------------------------|---------------------|----------------------------------|----------------|--------------------------------------|-----------------|------------|
| | | | vice type: | GW6L_B0_L256 | | |
| | | Online access | | | | |
| | | Type of the PG/PC | interface: | Ų PN/IE | | |
| | | | interface: | Realtek PCIe GbE Fa | mily Controller | • 🔊 |
| | | Device filter | | | | |
| | | Only show | devices of | the same type | | |
| | | <u> </u> | | th bad parameter setting | as | |
| | | | | thout names | 3- | |
| | | | devices wi | thouthames | | |
| | | es in the network: | | | | |
| | ddress 2.168.0.2 | MAC address 8C-F3-E7-20-00-04 | Device PNIO | PROFINET device nam gw6l-b0(l256) | e Status | |
| 19. | 2.166.0.2 | 80-13-27-20-00-04 | PNIO | gwoi-b0(1256) | OK OK | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| < | | | | | | |
| | | | | | Update list | Assign nar |
| | | | | | | |
| | | | | | | |
| tatus information: | | | | | | |
| earch completed. 1 of 2 | devices wer | e found. | | | | |
| | | | | | | |
| | | | | | | |
| | | | 111 | | | |
| | | | | | | |

d. Click Close.

7. Download Configuration Structure

- a. In Network View, check PLC.
- b. Click the Dutton in the menu bar to download the current configuration to the PLC.
- c. In the "Extended Download to Device" pop-up screen, configure the following figure.

| | Device | Device type | Slot | Interface type | Address | Subne | t |
|-----------|--------|----------------------------|-------|----------------|----------------------|--------|---------|
| | PLC_1 | | 1 X1 | PN/IE | 192.168.0.1 | PN/IE_ | ,1 |
| | | | | | | | |
| | | Type of the PG/PC inter | face: | PN/IE | | - | • |
| | | PG/PC inter | face: | Realtek PCIe G | bE Family Controller | r i | - 🔊 |
| | | Connection to interface/su | bnet: | PN/IE_1 | | | • |
| | | 1st gate | eway: | | | | - |
| ···· | - | | PN/IE | Acc | ess address | - | |
| ji | | | | | | | |
| • | | | | | | | |
| | | | | | | | |
| Elach LED | | | | | | | |
| Flash LED | | | | | | | |
| Flash LED | | | | | | Star | tsearc |
| | : | | | ſ | Display only erro | | t searc |
| Flash LED | : | | | (| Display only erro | | t searc |
| | C. | | | [| Display only erro | | t searc |
| | e | | | (| Display only erro | | t searc |

d. Click the "Start Search" button as shown below.

| | | ss nodes of "PLC_1" | | | | | |
|--|---|--|----------------|----------------|------------------------------------|----------------------------|-------|
| | Device | Device type | Slot | Interface type | Address | Subnet | |
| — | PLC_1 | CPU 1214C DC/D | 1 X1 | PN/IE | 192.168.0.1 | PN/IE_1 | |
| | | Type of the PG/PC inte | rface: | PN/IE | | • |] |
| | | PG/PC inte | rface: | Realtek PCIe C | bE Family Controlle | r 💌 | |
| | | Connection to interface/su | bnet: | PN/IE_1 | | | 1 |
| | | 1st gat | eway: | | | Ŧ | 1 |
| | Select target de | vice: | | | Show all compatib | le devices | |
| | Select target de Device | vice: Device type | Interfa | ace type Ad | Show all compatib | le devices Target devic | |
| | Device PLC_1 | | . PN/IE | 19 | dress 2.168.0.1 | 14 | |
| ал. ———————————————————————————————————— | Device | Device type | | 19 | dress | Target devic | |
| •• | Device PLC_1 | Device type CPU 1214C DC/D | . PN/IE | 19 | dress 2.168.0.1 | Target devic | |
| 3 | Device PLC_1 | Device type CPU 1214C DC/D | . PN/IE | 19 | dress 2.168.0.1 | Target devic | |
| 3 | Device PLC_1 | Device type CPU 1214C DC/D | . PN/IE | 19 | dress 2.168.0.1 | Target devic | |
| Flash LED | Device PLC_1 | Device type CPU 1214C DC/D | . PN/IE | 19 | dress 2.168.0.1 | Target devic PLC_1 | e |
| Flash LED | Device PLC_1 - | Device type CPU 1214C DC/D | . PN/IE | 19 | dress 2.168.0.1 cess address | Target devic PLC_1 | |
| Flash LED | Device PLC_1 - | Device type CPU 1214C DC/D. – | . PN/IE | 19 | dress 2.168.0.1 | Target devic PLC_1 | earch |
| Flash LED | Device PLC_1 - on: ished to the device of | Device type CPU 1214C DC/D. - with address 192.168.0.1. | PN/IE PN/IE | 19 | dress 2.168.0.1 cess address | Target devic PLC_1 | e |
| Flash LED | Device PLC_1 - on: ished to the device of | Device type CPU 1214C DC/D. - - with address 192.168.0.1. of 3 accessible devices for | PN/IE PN/IE | 19 | dress 2.168.0.1 cess address | Target devic PLC_1 | e |

- e. Click on "Download".
- f. Select "Continue without synchronization" as shown below.

| Softv | vare synchronization | Status | Action | |
|-------|----------------------|--------|---------------------------------|--|
| ▼ P | LC_1 | | | |
| • | 'Program blocks' | | | |
| | Main [OB1] | • | Manual synchronization required | |
| • | 'PLC tags' | | | |
| | Tags | • | Manual synchronization required | |
| | | | | |
| | | | | |
| | | | | |
| | | | 11 | |

g. Select "Stop All".

| tatus | 1 | Target | Message | Action |
|-------|---|--------------------------------|---|---------------------|
| +1 | 2 | ▼ PLC_1 | Ready for loading. | Load 'PLC_1' |
| | Δ | Protection | Protection from unauthorized access | |
| | 4 | | Devices connected to an enterprise network or directly to the internet must be appropriately protected against unauthorized access, e.g. by use of firewalls and network segmentation. For more information about industrial security, please visit http://www.siemens.com/industrialsecurity | |
| | 0 | Stop modules | The modules are stopped for downloading to device. | Stop all 💌 |
| | • | Device configuration | Delete and replace system data in target | Download to device |
| | 0 | Software | Download software to device | Consistent download |
|] | | | III | > |

- h. Click Load.
- i. Click Finish.
- j. Power the unit back up.

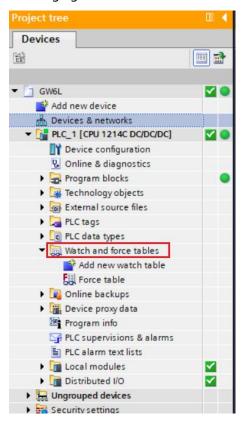
8、 communication link

a. Click the **I** button, ,and then click the "Go Online" button, the connection is successful, as shown in the following figure.

| | | | - * * |
|------------------------------------|-----|---|------------------|
| Devices | | F Topology view 🛛 🛔 Network view | Device view |
| ă | • | 💦 Network 🔛 Connections HM connection 💌 💀 Relations 💯 👯 👕 🖽 🛄 🍳 ± | |
| | | 4 IO system: PLC_1.PROFINET I | O-System (100) ^ |
| GW6L | | | |
| Add new device | | | = |
| d Devices & networks | | PLC_1 GW6L-B0(L256) | |
| PLC_1 [CPU 1214C DC/DC/DC] | 4 💿 | CPU 1214C GW6L_B0_L256 DP.NORM | |
| ▼ 😓 Ungrouped devices | | PLC_1 | |
| Security settings | = | | |
| Cross-device functions | | PLC 1. PROFINET IO-Syste | |
| Common data | | PLC_1.PROFINETIO-Syste | |
| Documentation settings | | | |
| Languages & resources | | | |
| Version control interface | | | |
| Gonline access | | | |
| Display/hide interfaces | | | |
| Realtek PCIe GbE Family Controller | | | |
| Pupdate accessible devices | | | |
| Pisplay more information | | | |
| Intel(R) Wi-Fi 6 AX201 160MHz | | | |
| PC internal [Local] | | | |
| USB [S7USB] | | | |
| TeleService [Automatic protocol d | | | ~ |
| Card Reader/USB memory | | K III > 100% | |

9、 Viewing uplink and downlink data

a. Expand the left side of the project navigation, select "Watch and force tables", as shown in the following figure.



b. Double-click "Add New Watch Table", the system adds a new monitor table, as shown in the following figure.

| Devices | | | | | | | | | |
|--|------------|---------|-------------------|----------------|---------------|--------------|---|---------|-----|
| ВÎ | 🔲 🖻 | 🔿 🔮 🚓 🔰 | 0 91 90 2 00 00 1 | | | | | | |
| | | i Name | Address | Display format | Monitor value | Modify value | 9 | Comment | Tag |
| GW6L | M 🔵 🔨 | 1 | Add new> | | | | | | |
| Add new device | | | | | | | | | |
| devices & networks | | | | | | | | | |
| PLC_1 [CPU 1214C DC/DC/DC] | M 🔵 | | | | | | | | |
| Device configuration | | | | | | | | | |
| Online & diagnostics | | | | | | | | | |
| Program blocks | • | | | | | | | | |
| Technology objects | | | | | | | | | |
| External source files | = | | | | | | | | |
| PLC tags | • | | | | | | | | |
| C PLC data types | | | | | | | | | |
| Watch and force tables | | | | | | | | | |
| Add new watch table | | | | | | | | | |
| Force table | | | | | | | | | |
| Watch table_1 | | | | | | | | | |
| Online backups | | | | | | | | | |
| 🕨 🔄 Traces | | | | | | | | | |
| OPC UA communication | | | | | | | | | |
| Device proxy data | | | | | | | | | |
| Program info | | | | | | | | | |
| PLC alarm text lists | | | | | | | | | |
| Local modules | Z | | | | | | | | |
| Distributed I/O | V | | | | | | | | |
| La Ungrouped devices | | | | | | | | | |
| Security settings | | | | | | | | | |
| Cross-device functions | | | | | | | | | |
| Common data | | | | | | | | | |
| Documentation settings | | | | | | | | | |
| Languages & resources | | | | | | | | | |
| Version control interface | | < | | | | | | | |

c. Open the Device View and check the channel Q address (channel address of the output signal) or I address (channel address of the input signal) of the module GW6L-B0(L256) in the device overview.

For example, the "Q address" of GW6L-B0(L256) module is 2 to 257, and the "I address" is 68 to 323, as shown in the following figure.

| | | | | | 🚽 Topolog | gy view 🔥 Netwo | rk view 📑 D | evice vier |
|-----------------------------------|----------|------|-----------|-----------|--------------|-----------------|-------------|------------|
| Device overview | | | | | | | | |
| 1 Module | Rack | Slot | I address | Q address | Туре | Article number | Firmware | Commen |
| GW6L-B0(L256) | 0 | 0 | | | GW6L_B0_L256 | 1234567 | V10.00.00 | |
| ► PN-IO | 0 | 0 X1 | | | PNIO | | | |
| IN/OUT_1 | 0 | 1 | 68323 | 2257 | IN/OUT | | 1.0 | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

d. Input the address, data type and comments in the Address cell of the monitoring table to facilitate monitoring. You can refer to the definition of the uplink and downlink process data, enter the data items in order, press the Enter key, and then click the button to monitor the data after all the

fields are filled in.

e. The module's uplink data is shown below in the watch table to see if the data is coming in correctly.

| i | Name | Address | Display format | Monitor value | Modify value | 9 | Comment | |
|----|------|---------|----------------|---------------|--------------|---|---------|---|
| 1 | | %IW68 | Hex | 16#0000 | | | | ^ |
| 2 | | %IW70 | Hex | 16#0000 | | | | = |
| 3 | | %IW72 | Hex | 16#0000 | | | | |
| 4 | | %IW74 | Hex | 16#0000 | | | | |
| 5 | | %IW76 | Hex | 16#0000 | | | | |
| 6 | | %IW78 | Hex | 16#0000 | | | | |
| 7 | | %IW80 | Hex | 16#0000 | | | | |
| 8 | | %IW82 | Hex | 16#0000 | | | | |
| 9 | | %IW84 | Hex | 16#0000 | | | | |
| 10 | | %IW86 | Hex | 16#0000 | | | | |
| 11 | | %IW88 | Hex | 16#0000 | | | | |
| 12 | | %IW90 | Hex | 16#0000 | | | | |
| 13 | | %IW92 | Hex | 16#0000 | | | | |
| 14 | | %IW94 | Hex | 16#0000 | | | | |
| 15 | | %IW96 | Hex | 16#0000 | | | | |
| 16 | | %IW98 | Hex | 16#0000 | | | | |
| 17 | | %IW100 | Hex | 16#0000 | | | | |
| 18 | | %IW102 | Hex | 16#0000 | | | | |
| 19 | | %IW104 | Hex | 16#0000 | | | | |
| 20 | | %IW106 | Hex | 16#0000 | | | | |
| 21 | | %IW108 | Hex | 16#0000 | | | | |
| 22 | | %IW110 | Hex | 16#0000 | | | | |
| 23 | | %IW112 | Hex | 16#0000 | | | | ~ |

f. In this example, the range of 68~322 bytes in the uplink data is the input data, totaling 255 bytes; the 323rd byte, i.e., the last byte, is the status bit, as shown in the figure below.

| i | Name | Address | Display format | Monitor value | Modify value | 9 | Comment | |
|---|------|---------|----------------|---------------|--------------|---|---------|---|
| | | %IW282 | Hex | 16#0000 | | | | ^ |
| | | %IW284 | Hex | 16#0000 | | | | |
| | | %IW286 | Hex | 16#0000 | | | | |
| | | %IW288 | Hex | 16#0000 | | | | |
| | | %IW290 | Hex | 16#0000 | | | | |
| | | %IW292 | Hex | 16#0000 | | | | |
| | | %IW294 | Hex | 16#0000 | | | | |
| | | %IW296 | Hex | 16#0000 | | | | |
| 4 | | %IW298 | Hex | 16#0000 | | | | |
| | | %IW300 | Hex | 16#0000 | | | | = |
| | | %IW302 | Hex | 16#0000 | | | | |
| | | %IW304 | Hex | 16#0000 | | | | |
| | | %IW306 | Hex | 16#0000 | | | | |
| | | %IW308 | Hex | 16#0000 | | | | |
| | | %IW310 | Hex | 16#0000 | | | | |
| | | %IW312 | Hex | 16#0000 | | | | |
| | | %IW314 | Hex | 16#0000 | | | | |
| | | %IW316 | Hex | 16#0000 | | | | |
| | | %IW318 | Hex | 16#0000 | | | | |
| | | %IW320 | Hex | 16#0000 | | | | |
| | | %IW322 | Hex | 16#0000 | | | | |
| | | %QW2 | Hex | 16#0000 | | | | |
| | | %QW4 | Hex | 16#0000 | | | | ~ |

g. The downlink data of the module is shown below in the monitoring table for forcing the output data as shown below.

| i Name | Address | Display format | Monitor value | Modify value | 9 | Comment | |
|--------|---------|----------------|---------------|--------------|---|---------|---|
| | %QW2 | Hex | 16#0000 | | | | 1 |
| | %QW4 | Hex | 16#0000 | | | | |
| | %QW6 | Hex | 16#0000 | | | | |
| | %QW8 | Hex | 16#0000 | | | | |
| | %QW10 | Hex | 16#0000 | | | | |
| | %QW12 | Hex | 16#0000 | | | | |
| | %QW14 | Hex | 16#0000 | | | | |
| | %QW16 | Hex | 16#0000 | | | | |
| | %QW18 | Hex | 16#0000 | | | | |
| | %QW20 | Hex | 16#0000 | | | | |
| | %QW22 | Hex | 16#0000 | | | | |
| | %QW24 | Hex | 16#0000 | | | | |
| | %QW26 | Hex | 16#0000 | | | | |
| | %QW28 | Hex | 16#0000 | | | | |
| | %QW30 | Hex | 16#0000 | | | | |
| | %QW32 | Hex | 16#0000 | | | | |
| | %QW34 | Hex | 16#0000 | | | | |
| | %QW36 | Hex | 16#0000 | | | | |
| | %QW38 | Hex | 16#0000 | | | | |
| | %QW40 | Hex | 16#0000 | | | | |
| | %QW42 | Hex | 16#0000 | | | | |
| | %QW44 | Hex | 16#0000 | | | | |
| | %QW46 | Hex | 16#0000 | | | | > |

h. In the "Modify Value" cell enter the value, click the ²⁴ button to write, write the value, as shown in the figure below.

| i | Name | Address | Display format | Monitor value | Modify value | 9 | Comment | |
|-------------|------|---------|----------------|---------------|--------------|---|---------|---|
| 1 | | %QW2 | Hex | 16#FFFF | 16#FFFF | | 1 | ^ |
| 1 | | %QW4 | Hex | 16#FFFF | 16#FFFF | | 1 | |
| 1 | | %QW6 | Hex | 16#0000 | | | | |
| 1 1 1 | | %QW8 | Hex | 16#0000 | | | | |
| 1 | | %QW10 | Hex | 16#0000 | | | | |
| 1 | | %QW12 | Hex | 16#0000 | | | | |
| 1 | | %QW14 | Hex | 16#0000 | | | | |
| 1 1 | | %QW16 | Hex | 16#0000 | | | | |
| 1 1 1 | | %QW18 | Hex | 16#0000 | | | | |
| 1 | | %QW20 | Hex | 16#0000 | | | | |
| 1 | | %QW22 | Hex | 16#0000 | | | | |
| 1 1 1 | | %QW24 | Hex | 16#0000 | | | | = |
| 1 | | %QW26 | Hex | 16#0000 | | | | |
| 1 | | %QW28 | Hex | 16#0000 | | | | |
| 1 | | %QW30 | Hex | 16#0000 | | | | |
| 1 | | %QW32 | Hex | 16#0000 | | | | |
| 1 1 1 | | %QW34 | Hex | 16#0000 | | | | |
| 1 | | %QW36 | Hex | 16#0000 | | | | |
| 1 | | %QW38 | Hex | 16#0000 | | | | |
| 1 1 | | %QW40 | Hex | 16#0000 | | | | |
| 1 | | %QW42 | Hex | 16#0000 | | | | |
| 1 | | %QW44 | Hex | 16#0000 | | | | |
| 1 | | %QW46 | Hex | 16#0000 | | | | ~ |

7.2.2.3 Application in KV STUDIO software environment

1. Create Project

- a. Open KV STUDIO software, select "File -> New Project".
- b. In the pop-up box, fill in the "Project Name", select "PLC Model", "Position", as shown in the figure below

| KV : | STUDIO | | | | | | | | | | | \times |
|---------|---------|----------------------|--------------|-------------------|-------------------|---------|--------------|----------|-----------------|---------------|--|----------|
| File(F) | View(V) | Monitor/Simulator(N) | Operation re | corder/Replay(R) | Tool(T) Wind | dow(W) | Help(H) | | | | | |
| i 🗅 📂 | | 19 11 R 🖶 R 🕐 | Ethernet | • | D 💕 🗐 🔂 | 1 d | K= () | | \$F5 F4 \$F4 F7 | F8F8SF8SF8SF8 | | |
| : | ≣ ≣ ≋ | @ ## 5 % % | ₹.00► | | (⊢ ♥)> > | -0. | y Ö 🛤 | 1 | | * Comments | | Ŧ |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | F | New project | | | | × | | | | |
| | | | | Project name(N) | | | PLC model(| K) | | | | |
| | | | | GW6L | | | KV-8000 | ~ | | | | |
| | | | | Position(P) | | | | | | | | |
| | | | | D:\Backup\Docum | ents\KEYENCE\k | VS10G\K | VS\PROJECT | Refer(S) | | | | |
| | | | | Comment(C) | | | | | | | | |
| | | | | | | | | ^ | | | | |
| | | | | | | | | ~ | | | | |
| | | | | AVV display comme | ents(\ <u>//)</u> | | | | | | | |
| | | | | KVS PROJECT | | | | | | | | |
| | | | | Register specia | I device cmnts(M |) | ок | Cancel | | | | |
| | | | | | | | | _ | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |

- Project name: Customize.
- PLC model: View the PLC appearance and select the corresponding model, e.g. KV-8000.
- c. The "Confirm Unit Setting Information" window pops up, and you can select to start the Unit Editor, close the dialog box, or read the unit configuration from the PLC as necessary. Select "No" to demonstrate the operation, as shown in the figure below.

| KV STUDIO -[Editor: KV-8000] - [GW6L *] | | - 🗆 × |
|--|---|-------|
| | i) Convert(A) Monitor/Simulator(N) Debug(D) Operation recorder/Replay(R) Tool(T) Window(W) | |
| 🕴 🗅 🧑 🗟 📾 📫 🚵 🖶 🖨 🗟 🕐 🗮 Us | | |
| i 🖉 🗄 📰 🌌 🖾 🖼 📲 🏅 🗞 😼 🔍 🌒 | ● ► ■ II H4 ▲ H H ▼ HI > ◎ | Ŧ |
| Project 🕂 🗸 | Main X | |
| Duit configuration Unit configuration Unit configuration switching Device comment Label | | |
| Operation recorder setting CFU system setting A Program: GW6L Every-scan execution | 00002 | |
| <pre>minimization module Initialize module Standby module Fixed-period module Inter-unit sync module Function Block Starco</pre> | of Confirm unit setting information × Setup unit setting info now? • of "[Yes]—Start Unit Editor. • * [No]—Close this dialog. • * [Read unit setting)—Read unit setting information from PLC. • | |
| Subroutine macro Self-hold macro Device default | Yes(Y) No(L) Read unit setting(L) | |
| File register setting O:Memory card I:CPU memory CPU memory | 0000 | |
| a oser document - | 00007 | END |
| | 00008 | ENDH |

2. Communication settings

Select the communication method, if the PLC and the host computer software are connected through a network cable, select "Ethernet", if connected through USB, select "USB".

Procedure for "Ethernet" operation

a. Click the to the menu bar to display the "Communication Settings" window as

shown below.

| C comm port | | |
|--|-------------------------|---------------------|
| USB(<u>U</u>) | ⊖ Serial(<u>S</u>) | |
| C Ethernet(E) | O Bluetooth(<u>H</u>) | ○ Modem(<u>M</u>) |
| SB settings | | |
| No settings. | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| Routing setting(<u>R</u>) | | |
| PC comm port : USB | | |
| PC comm port : USB via VT/DT : No via network : No | | |
| PC comm port : USB via VT/DT : No | | Detaï(<u>A</u>) |

Select "Ethernet", click "Destinations", select "1 sample", configure the IP address, and click
 "Search Destination Target". Click "Find Connection Target", as shown in the following figure, the IP address is configured in the "192.168.0" network segment.

| 776 | | |
|---|-------------------------|---------------------|
| PC comm port | | |
| | ◯ Serial(<u>S</u>) | |
| Ethernet(E) | O Bluetooth(<u>H</u>) | ○ Modem(<u>M</u>) |
| Ethernet settings | | |
| IP address(]) | 192 . 168 . 0 . 10 | Search dest.(F) |
| Port No.(P) | 8500 | Conn. test(T) |
| | | |
| PC comm port : US via VT/DT : No | | |
| PC comm port : US | SB | Detail(<u>A</u>) |
| PC comm port : US via VT/DT : No via network : No | SB | Detail(A) Cancel |
| PC comm port : US via VT/DT : No via network : No Connected model Destinations(L) Add to des | 58 : | |

c. In the "Search Destination" pop-up window, select the "network card" and click "Execute", as shown in the following figure.

| Select network card | | | | |
|---------------------|---|-----------------------|---------------|---|
| | 1 | | | |
| Network card (N) | Realtek PCIe GbE Family C | ontroller | | ~ |
| IP address | 192.168.0.254 | | | |
| Subnet mask | 255.255.255.0 | | | |
| Port No.(P) 8 | 500 Exe | cute(<u>S</u>) Stop | p(<u>B</u>) | |
| | here broadcast packets rea y increase according to the | | units. | |
| IAC address | Connected Unit typ | e IP address | Project name | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

d. Select the found PLC and click "Execute" as shown in the following figure.

| Select network card | | | | |
|---------------------|--|---------------------|--------------|--------|
| Network card (N) | Realtek PCIe GbE Family Contro | ller | | ~ |
| IP address | 192.168.0.254 | | | |
| Subnet mask | 255.255.255.0 | | | |
| Port No.(P) 85 | 00 Execute | (S) Stop(| D) | |
| | Execute | (<u>5</u>) Stop(| <u>b</u>) | |
| nd Ethernet unit wh | ere broadcast packets reach. (| KV only) | | |
| | increase according to the numl | | te. | |
| wetwork load may | increase according to the humi | ber of connected un | ns. | |
| esult | | | | |
| AC address | Connected Unit type | IP address | Project name | |
| | All and a state of the state of | 192.168.0.10 | 11 | |
| -01-FC-ED-53-73 | KV-8000 | 132.100.0.10 | | |
| -01-FC-ED-53-73 | KV-8000 | 152.100.0.10 | | |
| -01-FC-ED-53-73 | KV-8000 | 192.100.0.10 | | |
| -01-FC-ED-53-73 | KV-8000 | 192.100.0.10 | | - |
| -01-FC-ED-53-73 | KV-8000 | 192.100.0.10 | | |
| -01-FC-ED-53-73 | KV-8000 | 152,100.0.10 | | |
| -01-FC-ED-53-73 | KV-8000 | 192.100.0.10 | | |
| -01-FC-ED-53-73 | KV-8000 | 132.100.0.10 | | |
| -01-FC-ED-53-73 | KV-8000 | 152.100.0.10 | | |
| -01-FC-ED-53-73 | KV-8000 | 192.100.0.10 | | |
| -01-FC-ED-53-73 | KV-8000 | 152.100.0.10 | | |
| -01-FC-ED-53-73 | KV-8000 | 152.100.0.10 | | |
| -01-FC-ED-53-73 | KV-8000 | 152.100.0.10 | | |
| ⊢01-FC-ED-53-73 | KV-8000 | 152.100.0.10 | | |
| -01-FC-ED-53-73 | KV-8000 | 152.100.0.10 | Select | Cancel |

e. Click the "OK" button on the Communication Settings window.

"USB connection" operation method

Select USB on the "Communication Settings" screen.

3、 EtherNet/IP settings

a. Double click "Unit Configuration -> KV-8000 -> EtherNet/IP R30000 DMI10000" in the left navigation tree to bring up the "EtherNet/IP Settings" window. Select "Manual" or "Auto Configuration" as required. Select "Manual" to demonstrate the operation as shown in the figure below. When the setting is completed, click "OK" to close the window.

| File(F) Edit(E) View(V) | 📕 EtherNet/IP settings | | - | | × Ip(H) | |
|--------------------------------|---|--|----------|--------------|------------|--------|
| i 🗅 🤭 🗄 🗎 📴 🛗 🛛 | File(F) Edit(E) Settings(S) View(V) Convert(C) EDS file(D) Comm | unication(N) Tool(T) Help(H) | | | _ | |
| i _A 1 | - 🕊 🛈 🐩 🗞 🕹 🏠 🦍 👘 🎒 👫 🖏 🍠 🗞 🛱 🧠 💌 🗽 🛃 🎱 | EtherNet/IP unit | | | a × | • |
| Unit configuration | | Unit list(1) Unit setting(2) | Search u | nit(3) | _ | 10 |
| [0] KV-8000 | | | | | - | 10 |
| EtherNet/IF | | Unit name | Rev. | EDS fil | | |
| Unit configura | | Keyence Corporation | | | | |
| Label | | KV-5500 | 1.1 | KV-5500 | KV-8000 | |
| Operation record | | KV-7500 | 1.1 | KV-7500 | ^ | |
| CPU system setti | | KV-8000 | 1.1 | KV-8000 | | |
| 🖬 🚔 Program: GW6L | | E KV-EP02 | 1.1 | EtherNe | | |
| 😑 🚞 Every-scan exe 🔳 📸 Main | | KV-N16ER | | 16-poin | | |
| Initialize mod | | KV-N16ET* | | 16-poin | | |
| Standby module | | × | | 16-poin | | |
| Fixed-period # | | 1 | | 2+1ch a | | |
| 🔄 📄 Inter-unit syn | The EtherNet/IP setting has not been set. Ple * "Manual"Set the configuration from the | | | 8-point | be | |
| Function Block | * "Auto Configuration"Search the connect | | | 8-point | ion KV | |
| E S Macro | | _ | | 8-point | ~ | |
| Subroutine mac | | Configuration(A) | | > | | |
| Device default | | | _ | | | |
| 🖬 👘 File register se | | | | | | |
| 0:Memory card | | | | | | |
| 1:CPU memory | | | | | | |
| 🖬 🛄 User document | | | | | _ | |
| | Output | | | | ф | |
| | | | | | > | |
| | | Lucción de la companya de la compa | | | ply | [END |
| | N Node name IP address Co | nnection (ms) | N] RPI[| OUT] Time of | ut | |
| | | (IIIS) | (11 | - / | - | |
| | | | | | | ENDH - |
| | I IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII | | | > | | |
| | Edito | | 6 | | 10 | |
| | Edito | r OK | Cance | Apply | | |

4. Installation of EDS files

a. Right-click the KV-8000 in the Unit Editor window and select "EtherNet/IP Settings" to enter the settings page as shown below.

| M KV STUDIO -[Editor: KV-8000] - [GW6L *] | | |
|--|--|---|
| File(F) Edit(E) View(V) Program(M) Script(| S) Convert(A) Monitor/Simulator(N) Debug(D) Operation recorder/Replay(R) | Tool(T) Window(W) Help(H) |
| 🗅 📂 🖶 📾 📫 🛤 🗮 🗟 🕢 🔡 Et | hernet 🔹 💀 💕 📲 👺 🔕 🗹 🖏 🕮 😂 📟 🔛 🗄 부 🍄 부 부 | F4 F7 5F7 F8 5F8 F9 5F9 |
| | | Comments Comment 1 |
| | | X |
| Troject 4 7 | | |
| [0] KV-8000 | File(F) Edit(E) Convert(P) View(V) Option(O) Window(W) Help(H) | |
| EtherNet/IP R30000 DM10000 | | 0 |
| 💭 Unit configuration switching | | Unit a |
| - 📴 Device comment | 0 Width:57mm KV-8000 | Select unit(1) Setup unit(2) |
| T Label | Height:90mm | |
| Operation recorder setting EVEN System setting | Depth:115mm Curr. Cons.:400mA | TE P= |
| Program: GW6L | Weight: 340g EtherNet/IP setting(F) Ctrl+F | |
| Every-scan execution | | Socket function Not used(*) • |
| 🖬 📑 Main | Setup mail(M) Ctrl+M | Leading DM No. DM10000 |
| Initialize module | Mail Command Maker(2) | Number of DMs 230 |
| Fixed-period module | FTP client setting(J) | Leading relay R30000 |
| Inter-unit sync module | | Number of rel 640 |
| - Function Block | | Baud rate 100/10Mbps aut |
| 🚍 🚍 Macro | | Setting metho Fixed IP addre |
| Subroutine macro | | TP address 192 168 0 10 ¥ |
| Self-hold macro Device default | | Socket function |
| a ∰ File register setting | | When socket function is used, the following functions, settings may be used. "Socket0"-"Socket15", "Common KV socket". |
| | Message | д |
| | Process Row No. Code Message | |
| | | |
| | II I I Message | > |
| | Display EtherNet/IP setting screen. Editor | Line:1, Col:1 OK Cancel Apply |

b. Click "EDS File" in the menu bar of the "EtherNet/IP Settings" screen, and then click "Registration" as shown in the following figure.

| <pre>May Endity Find an Approximation Solution May Endity Find an Approximation May Endity Find Approximation May Endity Find</pre> | 🞆 KV STUDIO -[Editor: KV-8000] - [GW6L *] | | | | | |
|--|---|--|--------------------------|-----------------------|---------------------------------|-------|
| Image: Section recorder setting Image: Section recorder setting <th>File(F) Edit(E) View(V) Program(M) Script</th> <th>(S) 🛼 EtherNet/IP settings</th> <th></th> <th></th> <th>-</th> <th>×</th> | File(F) Edit(E) View(V) Program(M) Script | (S) 🛼 EtherNet/IP settings | | | - | × |
| Reg(h roject I X Totic configuration I X Totic configuration I Value configuration Dial configuration I Value configuration Device comment I Value Device comment I Value configuration Display all EDS files(V) Property(P) Totaliste module I Value configuration Display all EDS files(V) Property(P) Text y-scan execution I W Y-NIGER I I Ferdiance Display all EDS files(V) I W Y-NIGER I I Ferdiance Display all EDS files(V) I W Y-NIGER I I Ferdiance Display all EDS files(V) I W Y-NIGER I I Ferdiance Display all EDS files(V) I W Y-NIGER I I Ferdiance Frequency condite I W Y-NIGER I I Ferdiance Frequency condite I W Y-NIGER I I Ferdiance Fi W Sec document I W Sec W W W W W W W W W W W W W W | | the File(F) Edit(E) Settings(S) View(V) Convert(C) | EDS file(D) Communicati | on(N) Tool(T) Help(H) | | |
| Project 9 Olit configuration 9 Init configuration 9 Init configuration 9 Init configuration setting 9 Detector 10 Marco comment(E) Add to scan list(A) Display all EDS files(V) 9 Property(P) 7500 Initialize module 5500 Standy module 11.1 Inter-unit sync module 11.1 Standy module 11.1 Inter-unit sync module 11.1 Standy module 11.1 Standy module 11.1 Property(P) 11.1 Standy module 11.1 Inter-unit sync module 11.1 Standy module 11.1 Property (P) 11.1 Standy module 11.1 Inter-unit sync module 11.1 Standy module 11.1 Property (P) 11.1 Standy module 11.1 Standy module 11.1 Standy module 11.1 Standy module 11.1 | | | Reg(I) | | | |
| rojet 0 X Construction Statistics (Construction Statistics) (Construct | | | Delete(D) | unit | | a |
| Add to scan list(A) Dist configuration switching Port configuration switching Property(P) P | - | | Search(S) | | the sector of the sector of the | |
| EtherNet/IP B30000 DH10001 Wilt configuration switching Device comment Goperation recorder setting Operation recorder setting Coll system setting Property(P) Tabel Property(P) Tabel Property(P) Tabel Property(P) Tabel Property(P) Tabel Property(P) Tabel Property(P) Table Property P) Subroutine macrol Poler Poler | | 8 | Edit comments(E) | | earch unit(3) | |
| Diploy all EDS files(V) Display all EDS files(V) Display all EDS files(V) Display all EDS files(V) Display all EDS files(V) SS00 1.1 KV-SS00 SS00 SS00 1.1 KV-SS00 SS00 S | | | Add as seen line(A) | | | |
| <pre>Bip System setting C Operation recorder setting C Standy module F Inter-unit sync module F In</pre> | | | | | | ^ |
| Image: Status Property(P) 5500 1.1 KV-5500 CCPU system setting 7500 1.1 KV-7500 1.1 Image: Status Forgram: GWEL Image: Status | | | Display all EDS files(V) | ice corporation | | |
| CPU system setting CPU system setting Program: GWEL | | | Property(P) | | | |
| CHO System Securing B Programs GWL B Programs GWL Initialize module Standby module Fixed-period module Fixed-period module Standby module Fixed-period module Standby module Standby module Fixed-period module Standby module Standby module Fixed-period module Standby module Standby module Fixed-period module Inter-unit sync module Subroutine macro Subroutine macro Subroutine macro Device default I l:CPU memory User document Output Macro N Node name IP address Connection RPI(IN) RPI(OUT) (ms) Time out (ms) N Node name IP address Connection | Operation recorder setting | | | | | |
| <pre>B Device document</pre> | | | | | | |
| <pre># Main Initialize module Standby module Fixed-period module Fixed-period module Inter-unit sync module Function Block Betroutine macro Subroutine macro Su</pre> | 🚍 🚔 Program: GW6L | | 8 | | | |
| Thitalize module Standby module Fixed-period module Inter-unit sync module Rtw-Nicex Nector Subroutine macro Subroutine macro Subroutine sector Output Output Set document Output N Node name IP address Connection RPI(IN) RPI(IN) RPI(IN) RPI(IN) Ressage/Verify Setup list | | | | | | |
| Standby module Fixed-period m | | | | | | |
| Fixed-period module Inter-unit sync module Function Block Function Block Subroutine macro Subroutine macro Subroutine macro Subroutine macro Subroutine macro Weile register setting Output Output Output N Node name IP address Connection RPI[IN] RPI[OUT] Time out (ms) Time out (ms) Time out (ms) Time out (ms) Setup list | | | | | | |
| Inter-unit sync module Pinction Block Pinction Block State Macro Subjointing macro Device default Pile register setting Output Device document Output Dutt Dutt <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> | | | | | | |
| Function Block Macro Subroutine macro Subroutine macro Self-hold macro Device default Output Output Output Output A Device document Device docum | | | | | | |
| Image: Set of the second se | | | | | | |
| Subcoutine macro Subcoutine macro Subcoutine macro Subcoutine macro Device default 1:CPU memory Device document Output Output Output N Node name IP address Connection RFI[IN] RFI[OUT] Time out (ms) (ms) Content Cont | a 🗐 Macro | | | | | |
| Image: Self-hold macro Image: Device default Image: Self-hold macro Image: Self-hold macr | - E Subroutine macro | | < | THE NORME | 1 1 010 | > ' |
| Image: Split of resting EDS for GWEL_CO_LISE In 1CFU memory Image: Split of the | | | | | | |
| ■ Pile register setting ■ 0:Hemory card ■ 1:CFU memory ■ 1:CFU memory ■ 1:CFU memory ■ 0:M IP ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● | | | | | | |
| ICCU memory Image: User document Output Image: Ima | | | 220 | 101 0.00_00_0000 | | |
| Image: Second comment Output Image: Second comment Image: Sec | | | | | | |
| Output a Im Im | | | | | | |
| Image: Setup list Im | a - Oser document | Output | | | | Д |
| N Node name IF address Connection RFI(IN) (ms) RPI(OUT) (ms) H + H Message/Verify Setup list I > | | | | | | |
| N Node name IF address Connection (ms) (ms) lime out | | | | | | |
| | | N Node name IP addre | ss Connect | | | e out |
| | | | | | | |
| Read EDS file, and register to the unit list. Editor OK Cancel Apply | | H + + H Message Verify Setup list | () < | | | > |
| | | Read EDS file, and register to the unit list. | Editor | OK | Cancel App | v |

c. In the folder where the EDS file is placed, select the EDS file of the corresponding model and click "OK", the configuration file installation is completed, as shown in the following figure.

| | 0000[0] : 192.168.0.10 | | EtherNet/IP unit | | |
|-------|------------------------|--|---|----------|-----------------|
| | | | Unit list(1) Unit setting(2) | Search u | init(<u>3)</u> |
| | | | | | |
| | | | Unit name | Rev. | EDS fil |
| | | | WI-5000 Series | 1.1 | WI-5000 |
| | | | xG-8000/7000 | 1.2 | XG-8000 |
| | | | XG-X1000 Series | 1.1 | XG-X100 |
| | | | XG-X2000 Series | 1.1 | XG-X200 |
| | | | Generic Device | 1.1 | Generic |
| | | | - Nanjing Solidot | | |
| | | | EI3-1616A | 2.3 | EDS fil |
| | | | EI4-1616A | 2.3 | EDS fil |
| | | | EI4-A80V | 2.3 | EDS fil |
| | | | B GW6L C0 L256 | 1.1 | EDS for |
| | | | 5D-0030 | 1.1 | V1.0 ED |
| | | | 303 XB6S-E12002 | 2.3 | EDS fil |
| | | | < | | > |
| | | | 1 | | > |
| | | | GW6L_C0_L256[1.1] EDS for GW6L_C0_L256 | | |
| | | | | | |
| utput | | | | | |
| | <i></i> | | | | |

5、 topological configuration

Topology configuration can be "manually added" and "auto-configuration" two ways, this configuration using manual configuration.

a. Enter the "EtherNet/IP Settings" page and switch to the "Search Unit" tab, as shown in the following figure.

| (1) 新 ⅔ ¼ ¼ ╗ (1) 新 페 ♂ 6 @ @ M k | Eth | erNet/IP unit nit list(1) Unit se nit list(1) Display Unit name | tting(2) <mark>Search un all</mark> IP address | ~ |
|-----------------------------------|----------------|--|--|----------------|
| | Ur | nit list(1) Unit se | all | iit(<u>3)</u> |
| | 1 | Display | all | ~ |
| | | | | s MAC a |
| | | Unit name | IP address | s MAC a |
| | K | | | |
| out M IP IN IN IN IN Address | Conne | ction | RPI[IN] RPI[((ms) (ms) | |
| | 0 | | | |
| H Message Verify Setup list | [] < Editor | 1 | OK Cancel | Apply |

b. Click , select the communication path, and the USB connection method is shown in the following figure.

| lonoming ingule. | |
|---|--|
| LtherNet/IP settings | - 🗆 X |
| File(F) Edit(E) Settings(S) View(V) Convert(C) EDS file(D) Comm | nunication(N) Tool(T) Help(H) |
| 📲 🕼 🐕 💫 🛍 🐘 📑 🌮 🚳 🔍 💌 🛍 😭 🥝 | |
| KV-8000[0] : 192.168.0.10 | EtherNet/IP unit |
| | Unit list(1) Unit setting(2) Search unit(3) |
| | 👫 🐘 者 Display all 🗸 🗸 |
| | Unit name IP address MAC a |
| | |
| | |
| Select communication path | × |
| Ethernet port of EtherNet/IP unit vi | ia PLC(P) |
| OPC Ethernet port direct link(D) | |
| | |
| | 1 |
| | |
| | : |
| | |
| | |
| OK | Cancel |
| | |
| | |
| Output | |
| | |
| N Node name IP address Co | onnection RPI[IN] RPI[OUT] (ms) (ms) Time out |
| | (10) (10) |
| | |
| If I I I Message Verify Setup list | > |
| Edito | or OK Cancel Apply |

c. "PC Ethernet Port Direct Link" is the network cable connection method, as shown in the following

figure.

| LtherNet/IP settings | | | | | |
|---------------------------------------|------------------------|-----------------------------------|--------------------------|-------------------------|----------|
| File(F) Edit(E) Settings(S) View | (V) Convert(C) EDS fi | le(D) Communication(N) To | ool(T) Help(H) | | |
| 📲 🕼 🐕 📽 🐘 🛤 | Y 🝠 😚 🚳 🖱 😿 🗎 | la lit 🕜 | | | |
| KV-8000[0] : 192.168.0.10 | | EtherNet/IP uni | t | | |
| | | Unit list(<u>1</u>) U | Jnit setting(<u>2</u>) | Search unit(<u>3</u>) | |
| | | 🙀 🙀 🛃 Di | splay all | | ~ |
| | | Unit nam | me IP | address | MAC a |
| | | | | | |
| | - | | | | |
| | Select communication | n path | × | | |
| | O Ethernet port of Eth | erNet/IP unit via PLC(<u>P</u>) | | | |
| | PC Ethernet port dir | rect link(D) | | | |
| | | | | | |
| | 5 | | | | |
| | | | | | |
| | | : | - All 1997 | | |
| | | | | | > |
| | | OK Cancel | _ | | |
| | | OK Cancel | | | |
| | | | | | |
| Output | | | | | a. |
| ••••••••••••••••••••••••••••••••••••• | | | | | |
| N Node name | IP address | Connection | RPI[IN (ms) | | Time out |
| | | | | | |
| II II III Message Verify Setup I | st | | | | > |
| | | Editor | OK | Cancel | Apply |

d. Select "PC Ethernet Port Direct Link" to bring up the "Select NIC" window, and set the local NIC and IP address, as shown in the following figure.

| LtherNet/IP settings | | | | | | | |
|-----------------------------|---------------------|------------------------------------|-----------------|----------------------|--------------|---------------------|-------|
| File(F) Edit(E) Settings(S) | View(V) Convert(C) | EDS file(D) Communication(N) | Tool(T) Help(H) | | | | |
| 📲 🛈 🐕 🖏 👗 🛍 👘 | h 🖻 🖋 🗟 🕲 | 🖗 😿 🗽 🚺 🕜 | | | | | |
| KV-8000[0] : 192.16 | | | Et | nerNet/IP un | it | | Д |
| | | | U | nit list(<u>1</u>) | Unit setting | 2) Search unit(3) | |
| | | | * | | isplay all | | ~ |
| | | | | Unit na | ame | IP address | MAC a |
| | Select network care | | | | × | | |
| | Network card(N) | Realtek PCIe GbE Family Controller | | | ~ | | |
| | | 192.168.0.254 | | | | | |
| | IP address | 192.108.0.254 | | | | | |
| | Subnet mask | 255.255.255.0 | | | | | |
| | | | OK | (| Cancel | | > |
| | | | | | | | |
| Output | | | | | | | ф |
| <u>a n a s s a n</u> | | | | | | | |
| N Node name | IP addr | Connection | RPI[IN] (ms) | RPI[OUT] (ms) | Time out | Refresh priority | |
| H + + H Message Verify | Setup list | [] < | | | | | > |
| | | | Editor | | OK | Cancel | Apply |

e. Click to search for devices connected to the network. Set the IP address segment for

searching, and click "Search" as shown in the following figure.

| | | | | erNet/IP un hit list(1) I | | Search unit(<u>3</u>) | |
|-------|-----------|--|---------|--------------------------------|------------|-------------------------|--------|
| | | | | 11. At 12 | isplay all | | Y |
| | | | | Unit na | me I | P address | MAC a. |
| | Search un | it settings | × | | | | |
| | Search st | art address(T) 192 . 168 | . 0 . 0 | | | | |
| | | n unit without IP address(U) st acceptance time(Q) 15 | s | | | | |
| | | Search(<u>F</u>) | Cancel | | | | |
| | | | | | | | |
| | | | | | | | |
| utput | | | | | | | |

f. When the search is complete, the display is shown below.

| K EtherNet/IP settings | | | | | 0000 | | × |
|-------------------------------------|--------------------------|-------------------------------|------------------------------|---------------------------|----------------|-----------|----------|
| File(F) Edit(E) Settings(S) View(V) | Convert(C) EDS file(D) C | Communication(<u>N</u>) Too | l([]) Help(H) | | | | |
| 🐗 🕦 🐕 🗣 👗 🖻 👘 🥵 | ' 😚 🖗 🔍 😿 🖿 | 0 | | | | | |
| KV-8000[0] : 192.168.0.10 | | | EtherNet/IP unit | | | | д |
| | | | Unit list(<u>1</u>) Unit | t setting(2) Search u | nit(<u>3)</u> | | |
| | | | 🚮 🖬 🗗 Displ | lay all | \sim | | |
| | | | Unit name | | | address | |
| | | | GW6L_C0_L2 | 56 <u>192.168.0.1</u> | 8C:F3:E | 7:00:00:0 | 03 |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
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| | | | | | | | |
| | | | | | | | |
| | | | GWEL_C0_L256 | [1.1] | | | |
| | | | | next time: Fixed IP | start | | |
| | | | EDS file for G | Wel_C0_L256 | | | |
| | | | | | | | |
| Output | | | | | | | д |
| 9a ma # 57 12 154 154 | | | | | | | |
| N Node name | IP address | Connection | RPI[IN] R (ms) | RPI[OUT] (ms) Time out | Refre | | |
| | | | (ms) | (1003) | PIIOII | 01 | |
| | | | | | | | |
| H + + Message Verify Setup list | | | | | | | > |
| | | | Editor | OK | Cancel | Apply | |

Double-click on the found device to add it to the configuration, as shown below. g.

| 📕 EtherNet/IP settings | | | | | | | 0.000 | | \times |
|-------------------------------------|---------------|----------------------------|--|------------------|------------------|--------------------|-----------------|----------|----------|
| File(F) Edit(E) Settings(S) View(V) | Convert(C) ED | S file(D) Communication(N) | Tool() | Help(<u>H</u>) | | | | | |
| 📲 🕼 🐕 🐾 👗 💼 👘 👫 | 🤊 🚳 🔍 🗹 | to ti 🕜 | | | | | | | |
| KV-8000[0] : 192.168.0.10 | | | Eth | erNet/IP unit | | | | | ņ |
| | | | Un | it list(1) U | nit setting(2 |) Search un | it(<u>3</u>) | | |
| | | | 1. Sec. 1. Sec | 🐂 🛃 Dis | play all | | ~ | | |
| 1: GWEL_C0_L256 : 192. | 168.0.1 | | | Unit nam | | IP address | | addres | |
| Exclusive Owner | | | | GW6L_CO_L | 256 <u>192</u> | <u>. 168. 0. 1</u> | 8C:F3:E | 7:00:00: | 03 |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | G | EL_CO_L25 | 6[1, 1] | | | | |
| | | | So | lidot | | | | | |
| | | | | S file for | | e:Fixed IP 256 | start | | |
| | | | | | | | | | |
| Output | | | | | | | | | ņ |
| bib # <i>₽</i> 88 0\$ 0 | | | | | | | | | |
| N Node name | IP address | Connection | | RPI[IN] (ms) | RPI[OUT] (ms) | Time out | Refre priori | | |
| 1 GW6L_C0_L256 | 192.168 | Exclusive Owner | | 5.0 | 80.0 | RPI*16 | Normal | | |
| | | | | | | | | | |
| I I I Message Verify Setup list | | (< | | | | | | | > |
| | | | | Editor | | OK | Cancel | Apply | / |

6、Setting the IP address

In the interface of the found device, double-click the IP address column and configure the IP address in the pop-up box. The default address network segment is 192.168.0.

Description:

-The timeout for setting the IP address needs to be configured to 60s.

-If the dipswitch is configured with an IP address, the IP of the dipswitch prevails.

In this example, the GW6L-C0 (L256) uses a dial-up IP address of 192.168.0.1.

7. Configure the amount of uplink and downlink data

a. Click the Switch Mode option in the menu bar to switch to Editor mode, as shown in the following figure.

| File(<u>F)</u> Edit(<u>E)</u> View(<u>V)</u> Program(<u>M</u>) Script(<u>S</u>) | Conver | t(<u>A</u>) Monitor/Simul | ator(<u>N</u>) Debug(<u>D</u>) |) Operation | recorder/Replay(<u>R</u>) T | ool() Window | (W) Help(H |
|--|--------|-----------------------------|------------------------------------|--|-------------------------------|---------------------------|------------|
| 🗋 🤒 🖶 🚔 📸 🛤 🖶 🗟 🕢 👔 🔛 Eth | ernet | - 🛛 📑 | 📲 🗈 🖸 🖬 | i 🏛 🚉 🖭 | DEN : F5 SF5 F4 SF4 - | F7 SF7 F8 SF8 F OO-I I | 3 SF9 |
| .4 🗄 🗄 🗷 📾 🎬 🖷 🎜 🗞 😽 🗨 🌒 | | II HI & H H | 7 H > O | - | Editor | - Comment | s Comment |
| roject 4 X | Main | × | | | Editor | | |
| Unit configuration | | 1 | 2 3 | 4 | Monitor Online edit | 7 | 8 |
| [0] KV-8000 | | | | | Simulator | | |
| EtherNet/IP R30000 DM10000 | 00001 | | | | Simulator edit | | |
| [1] GW6L_C0_L256 | 00001 | | | | Replay | | |
| Unit configuration switching Device comment | | | | | | | |
| Label | | | | | | | |
| Operation recorder setting | 00002 | | | | | | |
| CPU system setting | | | | | | | |
| 🖬 🚔 Program: GW6L | | | | · · · · · · · · · · · · · · · · · · · · | +++ | | |
| 🚍 🫅 Every-scan execution | | | | | | | |
| 🖬 📑 Main | 00003 | | | | | | |
| Initialize module Standby module | | | | | | | |
| - Fixed-period module | | | | | | | |
| Inter-unit sync module | 00004 | | | | | | |
| - J Function Block | 00004 | | | | | | |
| Macro | | | | | | | |
| - 🔚 Subroutine macro | | | | | | | |
| Self-hold macro | 00005 | | | | | | |
| III Device default Pile register setting | | | | | | | |
| 0:Memory card | | | | | | | |
| 1:CPU memory | | | | | | | |
| n 🎴 User document | 00006 | | | | | | |

b. Enter the "EtherNet/IP Settings" screen and click "Exclusive Owner" to bring up the "Connection Settings" window. In the "Connection Settings" window, click "Setup Parameter" as shown below.

| EtherNet/IP settings | | | | | | - 🗆 | \times |
|---|------------|----------------------------|-------------|---|--------|----------------|------------------|
| File(F) Edit(E) Settings(S) View(V) |) Convert(| Connection settings - 1:GW | 6L C0 L256 | 5 ? | × |] | |
| 🛷 🛈 📸 🖏 👗 🛍 🐘 📑 | | | | | | | |
| | D I W I | No. Connec | tion | Application type | | | ņ |
| KV-8000[0] : 192.168.0.10 | | 1 Exclusive Owner | | exclusive owner | | tion 1 | ~ |
| | | | | | | nit(<u>3)</u> | |
| | | | | | | | |
| 1: GW6L CO L256 : 192 Exclusive Owner | .168.0.1 | | | | | | ^ |
| 1999 - 1996 - 1996 - 1996 - 1996 - 1996 - 1996 - 1996 - 1996 - 1996 - 1996 - 1996 - 1996 - 1996 - 1996 - 1996 - | | Add(A) Delete(E | =) | | | 0.1 L256 | |
| | | Connection name(C) | Exclusive C | human | ~ | L256 | |
| | | | | | * | ch | |
| | | Time out(T) | RPI*16 | (IN:80.0ms / OUT:800.0ms) | | | |
| | | Refresh priority(E) | Normal | | ~ | P | |
| | | | Setup par | ameter(P) Assign device([| D) | 2 | |
| | | IN (input from adapter) | | | | or | |
| | | Connection type | | | | | |
| | | Connection point | | | ~ | | |
| | | Data size | 0 | Word | | | |
| | | | | word | _ | | |
| | | Send trigger | Cyclic | | Y | | |
| | | RPI (communication cycle) | 5.0 | ms (2.0 to 50.0ms) | | - | * |
| | | Production inhibit time | - | ms | | | |
| | | OUT (output to adapter) | | | | - | |
| Output | | Connection type | | | | | |
| ₽ m # <i>\$</i> 7 8 % ∰ | | Connection point | | | \sim | | |
| N Node name | IP add | Data size | 0 | Word | | 111 | Refres riorit |
| 1 📓 GW6L C0 L256 | 192.16 | RPI (communication cycle) | 50.0 | ms (2.0 to 50.0ms) | | Norma | |
| | | | Keep cor | nsistent with IN | | | |
| H + + H Message Verify Setup list | | | | | | | > |
| | | | | OK Ca | ncel | Appl | y] / |

c. In the "Setup Parameter" window, you can configure the uplink and downlink data volume, the uplink and downlink data volume are 256 bytes, as shown in the figure below. Click "OK" to save

the settings.

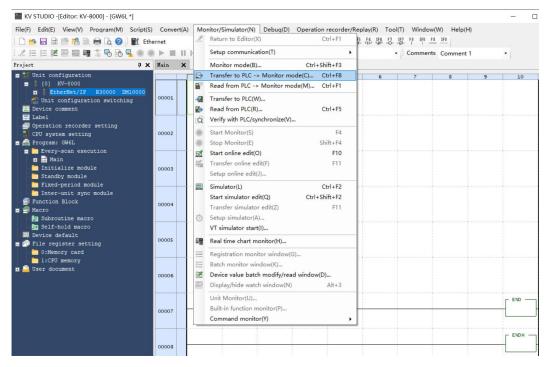
| LtherNet/IP settings | | - 🗆 × |
|--|---|----------------------|
| File(F) Edit(E) Settings(S) View(V) Convert | onnection settings - 1:GW6L C0 L256 ? × | |
| 4 🛈 🚔 🕾 👗 🖿 👘 👘 😤 🚳 殿 | | |
| | No. Connection Application type | 4 |
| KV-8000[0] : 192.168.0.10 | 1 Exclusive Owner 😵 exclusive owner | nit(3) |
| | Setup parameter X | nic(2) |
| 1: GW6L_C0_L256 : 192.168.0.1 | Parameter(P) GW6L_C0_L256 ~ | ^ |
| | No. Parameter Set value Attribute | 0.1 |
| | 0004 Reserve0 0: R/W | L256 |
| | Conr 0005 Reserve1 0: R/W ~ | L256 |
| | Time 0006 Consumed Data Size 256 R/W | ch |
| | 0007 Produced Data Size 256 R/W | |
| | Refre | P |
| | | |
| | IN 0 | ior |
| | | |
| | Con | |
| | Con | |
| | Data | |
| | | |
| | Sen Description Upload Data Size | |
| | RPI Range 0 to 1448 | ~ |
| | Current set 256 | |
| | Pro(value | |
| | OUT | |
| Output | Con | ą |
| | | - |
| <u>₽</u> • • • • • • • • • • • • • • • • • • • | Con | |
| N Node name IP add | Data Restore to default(D) OK Cancel | ut Refres priorit |
| 1 GW6L_C0_L256 192.16 | RPI (communication cycle) 50.0 ms (2.0 to 50.0ms) | Normal |
| | Keep consistent with IN | |
| II I I Message Verify Setup list | | > |
| | OK Cancel | Apply |

- d. In the Connection Settings window, click OK.
- e. In the EtherNet/IP Settings window, click Apply and click OK.
- f. In the Cell Editor window, click Apply and click OK.

8. Configuration Download

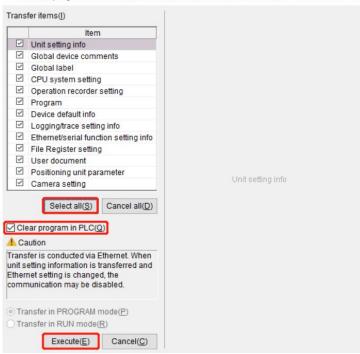
After module configuration and parameter setting are completed, download to PLC operation is performed.

a. Click "Monitor/Simulator (N) -> Transfer to PLC -> Monitor Mode (C)" in the menu bar as shown below.

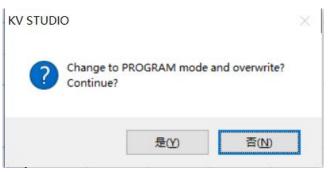


b. The Transfer Program window pops up, check "Clear Program in PLC", click "Select All", click "Execute" to download the program to the PLC, as shown in the following figure.

📰 Transfer program [Communication destination: KV-8000, route: Ethernet 192.168.0.1... 🗙



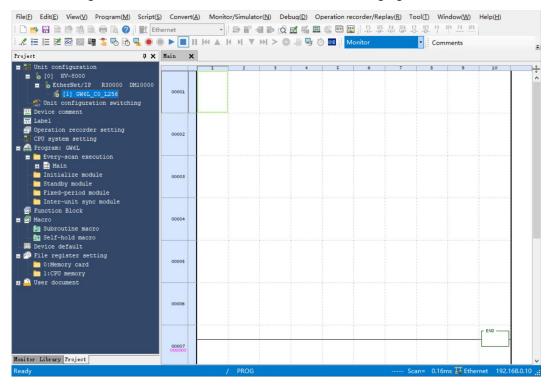
c. A prompt box pops up "Change to PROGRAM mode and overwrite? Continue?" Click to select "Yes" as shown below.



d. After writing to the PLC is completed, a pop-up box will appear, "Change to RUN mode", click and select "Yes", as shown in the figure below, to enter the monitoring mode.

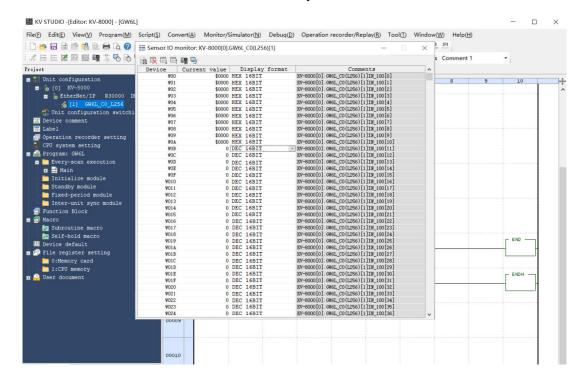
| KV STUDIO | \times |
|--------------|---------------|
| Change to RU | JN mode? |
| 是① | 香(<u>N</u>) |

e. After the configuration is downloaded, it is shown in the following figure.



9、 data monitoring

a. In monitor mode, double-click the "GW6L-C0(L256)" icon to open the monitor table, and you can monitor the uplink and downlink data. The uplink data is shown in the monitor table as below, which is used to check whether the data is correctly transmitted.



b. The first byte range of W00~W07F in the uplink data of this example is the input data, totaling 255 bytes; the last byte of W07F is the status bit, as shown below.

| ile(E) Edit(E) View(V) Program(M) | Script(S) Conv | vert(<u>A</u>) Monitor/Simulator(<u>N</u>) | Debug(D) (| Operation recorder/Replay(<u>R</u>) | Tool (1) Wind | low(M |) Help(H) | | |
|---|----------------|--|------------|--|---------------|-------|-----------|---|--------|
| 🗅 📂 🖶 📾 📂 🛍 🗟 🖶 💫 🕗 | 🚝 Sensor IO m | onitor: KV-8000[0].GW6L_C0(L25 | 6)[1] | _ | | 9 | SF9 | | |
| 1 🗄 🗄 🗷 🖂 📖 🖷 🕇 🕏 🔂 | 🖹 🕅 🖾 | Sign 19- | | | | is. | Comment 1 | | - |
| oject | Device | Current value Display | | Comments | | ^ | | | |
| | WOGE | 0 DEC 16BIT | | -6000[0].GW6L_C0(L256)[1]IN_100[1 | | | | | |
| Unit configuration | WO6F | 0 DEC 16BIT | | -8000[0].GW6L_C0(L256)[1]IN_100[1 | | | 8 | 9 | 10 |
| 🖬 🔓 [0] KV-8000 | W070 | 0 DEC 16BIT | | -8000[0].GW6L_C0(L256)[1]IN_100[1 | | | | | |
| EtherNet/IP R30000 D | W071 | 0 DEC 16BIT | | -8000[0].GW6L_C0(L256)[1]IN_100[1 | | | | | |
| | W072 | 0 DEC 16BIT | | -6000[0].GW6L_C0(L256)[1]IN_100[1 | | | | | |
| [1] GW6L_C0_L256 | W073 W074 | 0 DEC 16BIT | | -8000[0].GW6L_C0(L256)[1]IN_100[1 -8000[0].GW6L_C0(L256)[1]IN_100[1 | | | | | |
| 🔄 🦣 Unit configuration switchi | W074 W075 | 0 DEC 16BIT 0 DEC 16BIT | | -8000[0].GW6L_C0(L256)[1]IN_100[1 -8000[0].GW6L_C0(L256)[1]IN_100[1 | | | | | |
| The comment The comment The comment The comment of | W075 W076 | 0 DEC 16BIT 0 DEC 16BIT | | -8000[0].GW6L_C0(1256)[1]IN_100[1 -8000[0].GW6L_C0(1256)[1]IN_100[1 | | | | | |
| T Label | W076 | 0 DEC 16BIT | | -8000[0]. GW6L_C0(1256)[1]IN_100[1 -8000[0]. GW6L_C0(1256)[1]IN_100[1 | | | | | |
| Operation recorder setting | W077 | 0 DEC 16BIT | | -6000[0]. GW6L_C0(1256)[1]IN_100[1 | | | | | |
| | W078 | 0 DEC 16BIT | | -6000[0]. GW6L_C0(1256)[1]IN_100[1 | | | | | |
| CPU system setting | W07A | 0 DEC 16BIT | | -8000[0]. GW6L_C0(L256)[1]IN 100[1 | | | | | |
| 🕋 Program: GW6L | W07B | 0 DEC 16BIT | | -8000[0]. GW6L_C0(L256)[1]IN_100[1 | | | | | |
| Every-scan execution | WO7C | 0 DEC 16BIT | | -8000[0]. GWEL_CO(L256)[1]IN 100[1 | | | | | |
| Main | WO7D | 0 DEC 16BIT | | -8000[0]. GW6L_C0(L256)[1]IN 100[1 | | | | | |
| | WO7E | 0 DEC 16BIT | | -8000[0]. GW6L CO(L256)[1]IN 100[1 | | | | | |
| Initialize module | WOTE | \$0000 HEX 16BIT | | -8000[0]. GW6L CO(L256)[1]IN 100[1 | | | | | |
| - 🛅 Standby module | W080 | \$0000 HEX 16BIT | | -6000[0]. GW6L CO(L256)[1]OUT_150[| | | | | |
| Fixed-period module | W081 | \$0000 HEX 16BIT | | -8000[0]. GW6L_CO(L256)[1]OUT_150[| | | | | |
| Inter-unit sync module | W082 | \$0000 HEX 16BIT | | -6000[0]. GW6L CO(1256)[1]OUT 150[| | | | | |
| G Function Block | W083 | \$0000 HEX 16BIT | KV- | -6000[0]. GW6L CO(1256)[1]OUT 150[| 3] | | | | |
| | W084 | 0 DEC 16BIT | KV- | -6000[0]. GW6L_C0(L256)[1]0UT_150[| 4] | | | | |
| Macro | W085 | 0 DEC 16BIT | KV- | -8000[0]. GW6L_CO(L256)[1]OUT_150[| 5] | | | | |
| - 🗐 Subroutine macro | W086 | 0 DEC 16BIT | | -8000[0].GW6L_C0(L256)[1]0UT_150[| | | | | |
| 🕞 Self-hold macro | W087 | 0 DEC 16BIT | | -8000[0].GW6L_C0(L256)[1]0UT_150[| | | | | END - |
| Device default | W088 | 0 DEC 16BIT | | -8000[0]. GW6L_C0(L256)[1]0UT_150[| | | | | LEND . |
| File register setting | W089 | 0 DEC 16BIT | | -8000[0]. GW6L_C0(L256)[1]0UT_150[| | | | | - |
| | ¥08A | 0 DEC 16BIT | | -6000[0].GW6L_C0(L256)[1]OUT_150[| | | | | |
| 0:Memory card | WOSB | 0 DEC 16BIT | | -6000[0].GW6L_C0(L256)[1]0UT_150[| | | | | |
| - i:CPU memory | WOSC | 0 DEC 16BIT | | -6000[0].GW6L_C0(L256)[1]0UT_150[| | | | | |
| 📮 User document | WOSD | 0 DEC 16BIT | KV- | -8000[0].GW6L_C0(L256)[1]0UT_150[| 13] | | | | [ENDH |
| | WOSE | 0 DEC 16BIT | | -8000[0]. GWEL_C0(L256)[1]0UT_150[| | | | | - |
| | WOSF | 0 DEC 16BIT | | -8000[0].GW6L_C0(L256)[1]0UT_150[| | | | | |
| | W090 | 0 DEC 16BIT | | -6000[0].GW6L_C0(L256)[1]0UT_150[| | | | | |
| | W091 | 0 DEC 16BIT | | -8000[0]. GW6L_C0(L256)[1]0UT_150[| | | | | |
| | ₩092 | 0 DEC 16BIT | KV- | -8000[0].GW6L_C0(L256)[1]OUT_150[| 18] | ~ | | | |
| | 00009 | | | | | | | | |

c. The downlink data of the module is shown in the monitoring table as follows, which is used to force the data to be output, and the display format can be switched as shown in the following figure.

| | Program(M) | Script(S) | Convert(A) M | onitor/Sir | nulator(N) | Debug(| D) Oper | ration rec | order/Rep | lay(<u>R</u>) | Tool(I) | Wi |
|--------------------|--|----------------------|-----------------|----------------------------------|-------------------------|------------------|--|--|---|----------------------------------|---------|----------|
| | k 🖶 🖪 (🚍 | Sensor IO r | monitor: KV-800 | 0[0].GW6L | _C0(L256)[| 1] | | | | — | | \times |
| .≮ ☵ ☵ ೫ ☜ ! | 📲 🏅 😼 🖡 📾 | | - Ka 📮 🔍 | | | | | | | | | |
| roject | | Device WU78 | Current val | ue Di | splay fo | ormat | | Land Little | Comment: | 3 | | - |
| - Init configurati | - | W07C | | | 16BIT | | | | L256)[1]IN_ | | | |
| Unit configurati | on | W07D | | | 16BIT | | | | L256)[1]IN | | | |
| 🖬 📴 [0] KV-8000 | | WO7E | | | 16BIT | | | | L256)[1]IN | | | |
| E b EtherNet/II | R30000 | W07F | | 0 DEC | 16BIT | B | w-8000[0] | . GW6L_CO (| L256)[1]IN | 100[127] | | |
| [1] GW61 | C0 L256 | W080 | \$ | 0000 HEX | 16BIT | B | w-6000[0] | . GW6L_CO (| L256)[1]0VT | _150[0] | 1 | |
| f Unit configur | ation swit | ¥081 | \$ | 0000 HEX | 16BIT | | | | L256) [1] OVI | | | |
| Device comment | | W082 | | 0000 HEX | | | | | L256) [1] OVI | | | |
| | | W083 | \$ | 0000 HEX | | | | | L256)[1]0VI | | | |
| Label | | ¥084 | | | 16BIT | | | | L256) [1] OVI | | | |
| Operation record | er setting | ₩085 | | | 16BIT | | | | L256)[1]0VI | | | |
| 📲 CPU system setti | ng | ¥086 | | | 16BIT | | | | L256)[1]0VI | | | |
| Program: GW6L | | W087 | | | 16BIT | | | | L256)[1]0VI | | | |
| = Every-scan ex | cution | ¥088 ¥089 | | | 16BIT 16BIT | | | | L256) [1] OVI | | | |
| Main | ouozon | W089 W08A | | | | | | | L256) [1]0VI L256) [1]0VI | | | |
| | and and a second se | WOSA | | | 16BIT 16BIT | | | | L256)[1]001 L256)[1]001 | | | |
| 🔄 Initialize mo | | WOSC | | | 16BIT | | | | L256)[1]001 L256)[1]001 | | | |
| Standby module | 1 | WOOD | | | 16BIT | | | | L256)[1]001 | | | |
| Fixed-period 1 | nodule | WOOD | | | 16BIT | | | | L256)[1]001 | | | |
| Inter-unit sy | nc module | WOSF | | | 16BIT | | | | L256)[1]0VI | | | |
| Function Block | | ¥090 | | | 16BIT | | | | L256)[1]0UT | | | |
| | | ¥091 | | 0 DEC | 16BIT | | | | L256)[1]0VI | | | |
| Macro | 10.000 | W092 | | 0 DEC | 16BIT | B | W-8000[0] | . GW6L_CO (| L256)[1]OUT | _150[18] | | |
| 🔄 🛃 Subroutine ma | ro | W093 | | 0 DEC | 16BIT | B | W-8000[0] | . GW6L_CO (| L256)[1]OVI | 150[19] | | |
| 📑 Self-hold mac: | 0 | ¥094 | | 0 DEC | 16BIT | B | W-6000[0] | . GW6L_CO (| L256)[1]0VT | _150[20] | | |
| Device default | | ¥095 | | 0 DEC | 16BIT | | | | L256) [1] OVI | | | |
| File register se | tting | W096 | | | 16BIT | | | | L256) [1] OVI | | | |
| | ourng | W097 | | | 16BIT | | | | L256) [1] OVI | | | |
| 0:Memory card | | W098 | | | 16BIT | | | | L256) [1] OVI | | | |
| | | W099 | | | 16BIT | | | | L256)[1]0VI | | | |
| 1:CPU memory | | W09A | | | | | V-6000[0] | | | _150[26] | | |
| | | | | 0 DEC | | | | | | | | |
| 1:CPU memory | | W09B | | 0 DEC | 16BIT | B | w-6000[0] | . GW6L_CO (| L256)[1]0VI | | | |
| 1:CPU memory | | W09B W09C | | 0 DEC 0 DEC | 16BIT 16BIT | E | V-6000[0] V-6000[0] | . GW6L_CO() . GW6L_CO() | L256) [1] OVI L256) [1] OVI | _150[28] | 1 | |
| 1:CPU memory | | W09B W09C W09D | | 0 DEC 0 DEC 0 DEC | 16BIT 16BIT 16BIT | B B B | X-8000[0] X-8000[0] X-8000[0] | . GW6L_CO() . GW6L_CO() . GW6L_CO() | L256) [1] OVI L256) [1] OVI L256) [1] OVI | _150[28] _150[29] | | |
| 1:CPU memory | | W09B W09C | | 0 DEC 0 DEC 0 DEC 0 DEC | 16BIT 16BIT | B B B B | x-6000[0] x-6000[0] x-6000[0] x-6000[0] | . GW6L_CO(. GW6L_CO(. GW6L_CO(. GW6L_CO(| L256) [1] OVI L256) [1] OVI | _150[28] _150[29] _150[30] | | |

d. In the "current value" cell enter the value, write the value, as shown below.

| ile(E) Edit(E) View(V) Program(M) Script(S |) Convert(A) N | Ionitor/Simulator(N) | Debug(D) O | peration recorder/Repl | ay(<u>R</u>) Tool(<u>T</u>) W | indow(W) | Help(<u>H</u>) | |
|--|-----------------|----------------------|----------------|------------------------|-----------------------------------|---------------|------------------|---|
|) 🤒 🖬 🔮 🖄 🗟 🖶 🖗 🗋 😮 🗐 🖭 🗊 | E Sensor IO mon | itor: KV-8000[0].GW | 6L_C0(L256)[1] | | CA CO CO CO CO | - 023 0.2 029 | | × |
| 🗶 🏣 📰 🌌 🐼 🎬 🖷 🏅 🗞 🗞 🗣 🔹 | | - | - | | | | | |
| roject 🛛 🗘 🗙 | | | | | | | | _ |
| Unit configuration | Device | Current value | Display f | | Comment | | | ^ |
| ■ 6 [0] KV-8000 | ¥080 | | HEX 16BIT | | GW6L_C0(L256)[1]0 | | | |
| | W081 | | HEX 16BIT | | GW6L_C0(L256)[1]0 | | | |
| EtherNet/IP R30000 DM10000 | W082 | | HEX 16BIT | | GW6L_C0(L256)[1]0 | | | |
| [1] GW6L_C0_L256 | ¥083 | | HEX 16BIT | | GW6L_C0(L256)[1]0 | | | |
| 🔄 💭 Unit configuration switching | ¥084 | - | DEC 16BIT | | GW6L_C0(L256)[1]0 | | | |
| 💾 Device comment | ¥085 | | DEC 16BIT | | GW6L_C0(L256)[1]0 | | | |
| T Label | ¥086 | 0 1 | DEC 16BIT | | GW6L_C0(L256)[1]0 | | | |
| Operation recorder setting | W087 | 0 1 | DEC 16BIT | | GW6L_C0(L256)[1]0 | | | |
| CPU system setting | ¥088 | 0 1 | DEC 16BIT | | GW6L_C0(L256)[1]0 | | | |
| Program: GW6L | W089 | 0 1 | DEC 16BIT | | GW6L_C0(L256)[1]0 | | | |
| | ASOW | 0 1 | DEC 16BIT | | GW6L_C0(L256)[1]0 | | | |
| E Every-scan execution | WO8B | 0 1 | DEC 16BIT | KV-6000[0] | GW6L_C0(L256)[1]0 | UT_150[11] | | |
| 🖬 📰 Main | ¥08C | 0 | DEC 16BIT | | GW6L_CO(L256)[1]0 | | | |
| - 🛅 Initialize module | WOSD | 0 1 | DEC 16BIT | | GW6L_C0(L256)[1]0 | | | |
| Standby module | WOSE | 0 1 | DEC 16BIT | KV-6000[0] | GW6L_CO(L256)[1]0 | UT_150[14] | | |
| Fixed-period module | WOSF | 0 1 | DEC 16BIT | KV-6000[0] | GW6L CO(L256)[1]0 | UT_150[15] | | |
| Inter-unit sync module | W090 | 0 | DEC 16BIT | KV-8000[0] | GW6L_CO(L256)[1]0 | UT_150[16] | | |
| - Function Block | W091 | 0 | DEC 16BIT | KV-8000[0] | GW6L_C0(L256)[1]0 | UT_150[17] | | |
| | ¥092 | 0 | DEC 16BIT | KV-8000[0] | GW6L CO(L256)[1]0 | UT 150[18] | | |
| a 🗐 Macro | ¥093 | 0 | DEC 16BIT | KV-8000[0] | GW6L CO(L256)[1]0 | UT 150[19] | | |
| - 🛃 Subroutine macro | ¥094 | 0 | DEC 16BIT | KV-8000[0] | GW6L CO(L256)[1]0 | UT 150[20] | | |
| 📴 Self-hold macro | ¥095 | 0 | DEC 16BIT | KV-6000[0] | GW6L CO(L256)[1]0 | UT 150[21] | | |
| Device default | ¥096 | 0 | DEC 16BIT | KV-6000[0] | GW6L CO(L256)[1]0 | UT 150[22] | | |
| 👘 File register setting | ¥097 | | DEC 16BIT | | GW6L_CO(L256)[1]0 | | | |
| 0:Memory card | ¥098 | | DEC 16BIT | | GW6L CO(L256)[1]0 | | | |
| 1:CPU memory | ¥099 | 0 | DEC 16BIT | | GW6L CO(L256)[1]0 | | | |
| J User document | W09A | | DEC 16BIT | | GW6L CO(L256)[1]0 | | | |
| User document | W09B | | DEC 16BIT | | GW6L CO(L256)[1]0 | | | |
| | W09C | | DEC 16BIT | | GW6L CO(L256)[1]0 | | | |
| | WO9D | | DEC 16BIT | | GW6L CO(L256)[1]0 | | | |
| | WO9E | | DEC 16BIT | | GW6L CO(L256)[1]0 | | | |
| | 1002 | | DEC IODII | | 0005_00(1200)[1]0 | 01_100[00] | | - |
| | | | | | | | | |
| | | | | | | | END - | |
| | 00007 | | | | | 1 | 1 | |
| | 000000 | | | | | | | _ |
| onitor Library Project | | | | | | | | 1 |

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7.2.2.4 data interaction

a. After establishing the communication connection, the value is written in the downlink data of the KV STUDIO software, and the output data is shown below.

| File(F) Edit(E) View(V) Program(M |) Script(<u>S</u>) Conve | rt(A) Monitor/Simulator(N) Del | bug(<u>D</u>) Operation recorder/Replay(<u>R</u>) Tool | (I) Win |
|---|----------------------------|--------------------------------------|--|----------|
| | Ethernet | | 부 다 다 다 다 다 🔛 💷 🔁 📾 🔊 | SE7 F8 S |
| | | | | 1. |
| | | | | Com |
| roject | Д 🗙 Main | × | | |
| 🛛 👬 Unit configuration | | 1 1 3 1 | | |
| 🚍 🔓 [0] KV-8000 | 🔚 Sensor IO monit | or: KV-8000[0].GW6L_C0(L256)[1] | - 0 | × |
| 🛓 🔓 EtherNet/IP R30000 | | - | | |
| 6 [1] GW6L C0 L256 | | | - | |
| Tunit configuration swite | | ent value Display forma | | ^ |
| The Device comment | W080 W081 | \$ABCD HEX 16BIT | KV-8000[0].GW6L_C0(L256)[1]0UT_150[0] KV-8000[0].GW6L_C0(L256)[1]0UT_150[1] | |
| - Label | W081 W082 | \$FFFF HEX 16BIT \$0000 HEX 16BIT | KV-8000[0].GW6L_C0(L256)[1]00T_150[1] KV-8000[0].GW6L_C0(L256)[1]00T_150[2] | |
| The second se | W082 | \$0000 HEX 16BIT | KV-8000[0]. GW6L_C0(1256)[1]001_150[2] KV-8000[0]. GW6L_C0(1256)[1]00T_150[3] | |
| - 🗊 Operation recorder setting | ¥084 | 0 DEC 16BIT | KV-8000[0]. GW6L_C0(L256)[1]001_150[3] KV-8000[0]. GW6L_C0(L256)[1]00T_150[4] | |
| CPU system setting | ¥085 | 0 DEC 16BIT | KV-8000[0]. GW6L_C0(L256)[1]001_150[4] KV-8000[0]. GW6L_C0(L256)[1]007_150[5] | |
| 🖬 🚑 Program: GW6L | ¥086 | 0 DEC 16BIT | KV-8000[0]. GW6L_C0(L256)[1]00T_150[6] | |
| Every-scan execution | ¥087 | 0 DEC 16BIT | KV-8000[0]. GW6L. CO(L256)[1]0UT_150[7] | |
| Main | W088 | 0 DEC 16BIT | KV-8000[0]. GW6L C0(L256)[1]0UT 150[8] | |
| | W089 | 0 DEC 16BIT | KV-6000[0]. GW6L CO(L256)[1]OUT 150[9] | |
| - Initialize module | WOSA | 0 DEC 16BIT | KV-6000[0]. GW6L_C0(L256)[1]0UT_150[10] | |
| — Standby module | W08B | 0 DEC 16BIT | KV-8000[0].GW6L_C0(L256)[1]0UT_150[11] | |
| Fixed-period module | WOSC | 0 DEC 16BIT | KV-8000[0]. GW6L_C0(L256)[1]0UT_150[12] | |
| Inter-unit sync module | WOSD | 0 DEC 16BIT | KV-8000[0].GW6L_C0(L256)[1]0UT_150[13] | |
| - Function Block | WOSE | 0 DEC 16BIT | KV-8000[0].GW6L_C0(L256)[1]0UT_150[14] | |
| | WOSF | 0 DEC 16BIT | KV-8000[0].GW6L_C0(L256)[1]0UT_150[15] | |
| 🖬 🚍 Macro | W090 | 0 DEC 16BIT | KV-8000[0].GW6L_C0(L256)[1]0UT_150[16] | |
| - 🛃 Subroutine macro | W091 | 0 DEC 16BIT | KV-6000[0].GW6L_C0(L256)[1]0UT_150[17] | |
| Self-hold macro | W092 | 0 DEC 16BIT | KV-8000[0]. GW6L_C0(L256)[1]0UT_150[18] | |
| Device default | ¥093 | 0 DEC 16BIT | KV-8000[0].GW6L_C0(L256)[1]0UT_150[19] | |
| File register setting | W094 | 0 DEC 16BIT | KV-8000[0].GW6L_C0(L256)[1]0UT_150[20] | |
| the second se | W095 | 0 DEC 16BIT | KV-6000[0].GW6L_C0(L256)[1]0UT_150[21] | |
| 0:Memory card | W096 W097 | 0 DEC 16BIT | KV-8000[0].GW6L_C0(L256)[1]0UT_150[22] KV-8000[0].GW6L_C0(L256)[1]0UT_150[23] | |
| 1:CPU memory | W097 W098 | 0 DEC 16BIT 0 DEC 16BIT | KV-8000[0].GW6L_C0(1256)[1]001_150[23] KV-8000[0].GW6L_C0(1256)[1]00T_150[24] | |
| 🖬 🔷 User document | W099 | 0 DEC 16BIT | KV-8000[0]. GW6L_C0(L256)[1]001_150[24] KV-8000[0]. GW6L_C0(L256)[1]007_150[25] | |
| | W09A | 0 DEC 16BIT | KV-8000[0]. GW6L_C0(L256)[1]00T_150[26] | |
| | W09B | 0 DEC 16BIT | KV-6000[0]. GW6L_C0(L256)[1]0UT_150[27] | |
| | WOOD | 0 DEC 16BIT | KV-8000[0], GW6L C0(L256)[1]0UT 150[28] | |
| | WO9D | 0 DEC 16BIT | KV-8000[0]. GW6L_CO(L256)[1]0UT_150[29] | |
| | WO9E | 0 DEC 16BIT | KV-8000[0]. GW6L CO(L256)[1]0UT 150[30] | |
| | | | | |
| | | | | |
| | 00007 | | | |
| | 000000 | | | |
| Ionitor Library Project | | | | |
| | | | | |

b. In the monitoring table of the TIA Portal V17 software, check the uplink data to confirm that the data is entered into the gateway module, as shown in the following figure, the data has been passed in.

| i | Name | Address | Display format | Monitor value | Modify value | 9 | Comment | |
|----|------|---------|----------------|---------------|--------------|---|---------|---|
| 1 | | %IW68 | Hex | 16#CDAB | | | | ^ |
| 2 | | %IW70 | Hex | 16#FFFF | | | | - |
| 3 | | %IW72 | Hex | 16#0000 | | | | _ |
| 4 | | %IW74 | Hex | 16#0000 | | | | |
| 5 | | %IW76 | Hex | 16#0000 | | | | |
| 5 | | %IW78 | Hex | 16#0000 | | | | |
| 7 | | %IW80 | Hex | 16#0000 | | | | |
| 3 | | %IW82 | Hex | 16#0000 | | | | |
| 9 | | %IW84 | Hex | 16#0000 | | | | |
| 10 | | %IW86 | Hex | 16#0000 | | | | |
| 11 | | %IW88 | Hex | 16#0000 | | | | |
| 12 | | %IW90 | Hex | 16#0000 | | | | |
| 13 | | %IW92 | Hex | 16#0000 | | | | |
| 14 | | %IW94 | Hex | 16#0000 | | | | |
| 15 | | %IW96 | Hex | 16#0000 | | | | |
| 16 | | %IW98 | Hex | 16#0000 | | | | |
| 17 | | %IW100 | Hex | 16#0000 | | | | |
| 18 | | %IW102 | Hex | 16#0000 | | | | |
| 19 | | %IW104 | Hex | 16#0000 | | | | |
| 20 | | %IW106 | Hex | 16#0000 | | | | |
| 21 | | %IW108 | Hex | 16#0000 | | | | |
| 22 | | %IW110 | Hex | 16#0000 | | | | |
| 23 | | %IW112 | Hex | 16#0000 | | | | ~ |

c. At this point, the last status bit byte of the TIA Portal V17 software uplink data is 16#01 indicating that there is data interaction between the gateways, as shown in the following figure.

| i Name | Address | Display format | Monitor value | Modify value | 4 | Comment | |
|--------|---------|----------------|---------------|--------------|---|---------|--|
| | %IW280 | Hex | 16#0000 | | | | |
| | %IW282 | Hex | 16#0000 | | | | |
| | %IW284 | Hex | 16#0000 | | | | |
| | %IW286 | Hex | 16#0000 | | | | |
| | %IW288 | Hex | 16#0000 | | | | |
| | %IW290 | Hex | 16#0000 | | | | |
| | %IW292 | Hex | 16#0000 | | | | |
| | %IW294 | Hex | 16#0000 | | | | |
| | %IW296 | Hex | 16#0000 | | | | |
| | %IW298 | Hex | 16#0000 | | | | |
| | %IW300 | Hex | 16#0000 | | | | |
| | %IW302 | Hex | 16#0000 | | | | |
| | %IW304 | Hex | 16#0000 | | | | |
| | %IW306 | Hex | 16#0000 | | | | |
| | %IW308 | Hex | 16#0000 | | | | |
| | %IW310 | Hex | 16#0000 | | | | |
| | %IW312 | Hex | 16#0000 | | | | |
| | %IW314 | Hex | 16#0000 | | | | |
| | %IW316 | Hex | 16#0000 | | | | |
| | %IW318 | Hex | 16#0000 | | | | |
| | %IW320 | Hex | 16#0000 | | | | |
| | %IW322 | Hex | 16#0100 | | | | |
| | %QW2 | Hex | 16#CDAB | | | | |

d. In the monitoring table of the TIA Portal V17 software, write the downlink data as shown below.

| i | Name | Address | Display format | Monitor value | Modify value | 9 | Comment | |
|---|------|---------|----------------|---------------|--------------|---|---------|---|
| 1 | | %QW2 | Hex | 16#FFFF | 16#FFFF | | 1 | ^ |
| 1 | | %QW4 | Hex | 16#FFFF | 16#FFFF | | 1 | |
| 1 | | %QW6 | Hex | 16#0000 | | | | |
| 1 | | %QW8 | Hex | 16#0000 | | | | |
| 1 | | %QW10 | Hex | 16#0000 | | | | |
| 1 | | %QW12 | Hex | 16#0000 | | | | |
| 1 | | %QW14 | Hex | 16#0000 | | | | |
| 1 | | %QW16 | Hex | 16#0000 | | | | |
| 1 | | %QW18 | Hex | 16#0000 | | | | |
| 1 | | %QW20 | Hex | 16#0000 | | | | |
| 1 | | %QW22 | Hex | 16#0000 | | | | |
| 1 | | %QW24 | Hex | 16#0000 | | | | = |
| 1 | | %QW26 | Hex | 16#0000 | | | | |
| 1 | | %QW28 | Hex | 16#0000 | | | | |
| 1 | | %QW30 | Hex | 16#0000 | | | | |
| 1 | | %QW32 | Hex | 16#0000 | | | | |
| 1 | | %QW34 | Hex | 16#0000 | | | | |
| 1 | | %QW36 | Hex | 16#0000 | | | | |
| 1 | | %QW38 | Hex | 16#0000 | | | | |
| 1 | | %QW40 | Hex | 16#0000 | | | | |
| 1 | | %QW42 | Hex | 16#0000 | | | | |
| 1 | | %QW44 | Hex | 16#0000 | | | | |
| 1 | | %QW46 | Hex | 16#0000 | | | | ~ |

e. Check the uplink data in the KV STUDIO software to confirm that the data has been input to the gateway module, as shown in the following figure, the data has been transmitted.

| File(E) | Edit(E) | View(V) | Program(M |) Script(S) | Convert(A |) Monitor, | /Simu | lator(N) | Debug(D) | Operation | n recorder/Rep | olay(R) | Tool(I) | Wind | ow(|
|-----------------------|-----------------------|------------|------------|-------------|------------|-------------|-------|----------------|----------|------------|------------------------------------|---------|---------|---------|----------|
| 1 | | P 18 8 | k 🖶 🖪 🕝 | Ether | net | • E. | | -4 6 | 🖸 🖬 🖷 | | E F5 SF5 | F4 SF4 | F7 557 | F.8 SF8 | FS |
| 1 = | 8 = 8 2 | 607 IIII 🔤 | 1 🕇 🕏 P | | | *** * ** | | | | - etc 1 | 10.00 | | | - | |
| | 0 | | | E Sensor IO | monitor: K | V-8000[0].G | W6L | CO(L256) | [1] | | | | - | | \times |
| roject | | | _ | 🔁 🐺 🆽 I | | | | | | | | | | | |
| | | figuratio | n | Device | 1 101 101 | nt value | _ | Display | format | | Com | nents | | | - |
| | [0] B | | | | 00 | | | 16BIT | TOTHAC | xv-e000[0] | . GW6L CO(1256) | | 00[0] | | -1 |
| | | erNet/IP | R30000 | | 01 | | | 16BIT | | | . GW6L CO (1256) | | | | |
| | 6 | [1] GW6L_ | C0_L256 | | 02 | | | 16BIT | | | GW6L CO(1256) | | | | |
| | Unit c | configura | tion swit(| W | 03 | \$0000 | HEX | 16BIT | | KV-8000[0] | .GW6L CO(1256) | [1]IN 1 | 00[3] | | |
| De De | evice co | omment | | W | 04 | \$0000 | HEX | 16BIT | | KV-8000[0] | .GW6L_C0(L256) | [1]IN_1 | 00[4] | | |
| In La | abel | | | w | 05 | \$0000 | HEX | 16BIT | | | .GW6L_C0(L256) | | | | |
| The second second | | n recorde | r setting | W | 06 | \$0000 | HEX | 16BIT | | | .GW6L_C0(1256) | | | | |
| | | em settin | | | 07 | | | 16BIT | | | .GW6L_C0(1256) | | | | |
| | rogram: | | .g | | 08 | | | 16BIT | | | . GW6L_C0(L256) | | | | |
| | | | | | 09 | | | 16BIT | | | . GW6L_C0(L256) | | | | |
| | | -scan exe | cution | | DA | | | 16BIT | | | .GW6L_C0(L256) | | | | |
| | Mai 🏙 | | | | DB | | | 16BIT | • | | . GW6L_C0(L256) | | | | |
| | Initia | alize mod | ule | | DC DD | | | 16BIT 16BIT | | | . GW6L_C0(L256) . GW6L_C0(L256) | | | | |
| | Standb | by module | 8 | | DE | | _ | 16BIT | | | . GW6L_C0(L256) . GW6L_C0(L256) | | | | |
| | Fixed- | -period m | odule | | OF | | | 16BIT | | | . GW6L_C0(1256) . GW6L_C0(1256) | | | | |
| | Inter- | -unit syn | c module | ¥0 | | | | 16BIT | | | . GW6L_C0(1256) | | | | |
| and the second second | unction | | | 80 | | | | 16BIT | | | . GW6L_C0(L256) | | | | |
| M | | DICCK | | WO | | - | | 16BIT | | | . GW6L CO (L256) | | | | |
| | | | | 80 | | 0 | DEC | 16BIT | | | .GW6L CO(1256) | | | | |
| | - | itine mac | | WO | 14 | 0 | DEC | 16BIT | | | .GW6L CO(L256) | | | | |
| | | nold macr | • | WO | 15 | 0 | DEC | 16BIT | | | .GW6L_C0(L256) | | | | |
| | evice de | | | 80 | 16 | 0 | DEC | 16BIT | | | .GW6L_C0(L256) | | | | |
| (👘 Ei | ile regi | ister set | ting | WO | 17 | 0 | DEC | 16BIT | | KV-8000[0] | .GW6L_C0(L256) | [1]IN_1 | 00[23] | | |
| - | 0:Memo | ory card | | WO | 18 | 0 | DEC | 16BIT | | | .GW6L_C0(L256) | | | | |
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f. At this time, the last status bit byte of the KV STUDIO software uplink data is 16#01 indicating that there is data interaction between the gateways, as shown below.

| File(F) Edit | (E) View(V) | Program(M) | Script(S) | Convert(<u>A</u>) Monitor | /Simulator(<u>N</u>) | Debug(D) | Operation | recorder/Rep | ay(<u>R</u>) Tool(<u>T</u>) | Window(|
|--|--------------|--|---------------|-----------------------------|------------------------|----------|-------------|---------------|---------------------------------|-----------|
| 🗅 📂 🔒 | | k 🖶 🖪 🕜 | Ethern | et 🔹 | • • • • • | 🔞 🖬 🖷 | 💷 🎰 🖭 | F5 SF5 | F4 SF4 F7 SF7 | F8 SF8 F9 |
| / == 8= | 😢 🐼 🌆 🛛 | • <u>*</u> 5 B | | | н 🔻 нн > | - 0.1 | r th pan : | Monitor | | Comments |
| | | | _ | | | | - O (- | monitor | | comments |
| roject | | | ДХ Ма | in X | | | | | | |
| | configuratio | n | E Consor IO r | nonitor: KV-8000[0]. | | \[1] | | | | |
| 0] 👌 🖪 |] KV-8000 | | = sensor io i | | SWOL_CO(L230 | | | | | - ^ |
| = 0 | EtherNet/IP | | 🔁 🕵 🆽 🖽 | | | | | | | |
| | 💰 [1] GW6L | _C0_L256 | Device | Current value | Display | format | | Comm | ents | |
| 👘 Un | it configura | tion swit | W06/ | | DEC 16BIT | | | GW6L CO(L256) | LOOFTOOT | |
| - Devic | e comment | | W063 W063 | | DEC 16BIT | | | GW6L_C0(1256) | | |
| Tabel | | | W060 | | DEC 16BIT | | | GW6L_C0(L256) | | |
| Opera | tion recorde | r setting | W060 | | DEC 16BIT | | | GW6L CO(1256) | | |
| - | vstem settir | | W061 | 1 | DEC 16BIT | | | GW6L CO(L256) | | |
| | | *9 | W061 | | DEC 16BIT | | | GW6L CO(L256) | | |
| 🛔 🚔 Progr | | | W070 | | DEC 16BIT | | | GW6L_C0(L256) | | |
| | ery-scan exe | cution | W071 | | DEC 16BIT | | | GW6L CO(L256) | | |
| 🖬 🖬 | Main | | W072 | | DEC 16BIT | | | GW6L CO(L256) | | |
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| - St | andby module | | W074 | | DEC 16BIT | | | GW6L_C0(L256) | | |
| Fi: | xed-period m | odule | WO75 | ; (| DEC 16BIT | | | GW6L_C0(L256) | | |
| | ter-unit syn | and a state of the | W076 | | DEC 16BIT | | KV-8000[0] | GW6L_C0(L256) | 1]IN_100[118] | |
| | ion Block | o modure | W077 | | DEC 16BIT | | | GW6L_C0(L256) | | |
| | | | W078 | | DEC 16BIT | | KV-8000[0] | GW6L_C0(L256) | 1]IN_100[120] | |
| Macro | | | W079 |) (| DEC 16BIT | | KV-8000[0] | GW6L_C0(L256) | 1]IN_100[121] | |
| | broutine mac | | W07/ | | DEC 16BIT | | | GW6L_C0(L256) | | |
| 🔄 🔂 Se | lf-hold macr | 0 | W071 | | DEC 16BIT | | | GW6L_C0(L256) | | |
| Devic | e default | | W070 | | DEC 16BIT | | | GW6L_C0(L256) | | |
| File | register set | ting | W07I | | DEC 16BIT | | | GW6L_C0(L256) | | |
| | Memory card | | WO71 | | DEC 16BIT | | | GW6L_C0(L256) | | |
| | CPU memory | | WO71 | | HEX 16BIT | | | GW6L_C0(L256) | | |
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