

# Industrial Data Gateway Product



WeChat



WhatsAPP

新之訊電子科技有限公司  
Simsin Electronic Technology Co., Ltd

September 11, 2024

[www.simsin.cn](http://www.simsin.cn)

# Catalogue

1. Why do you need industrial data Gateway products?.....	3
1.1 Production process data is missing .....	3
1.2 Lack of product quality control in the production process.....	3
1.3 Manual statistical data is inefficient and has errors .....	3
1.4 Production management personnel need to control the workshop production situation in real time .....	4
2. How to apply industrial data Gateway products?.....	5
3. What is the value of an industrial data gateway.....	6
3.1 Production process real-time monitoring.....	6
3.2 Multi-dimensional data integration and analysis to improve production efficiency.....	6
3.3 The accuracy of production results is improved .....	6
3.4 Accumulate enterprise data assets .....	7
4. Product introduction.....	8
4.1 CNC Industrial Gateway Products (1 to 1).....	8
4.2 Injection Molding machine industrial gateway products (1 to 1) .....	11
4.3 PLC Industrial Gateway Products (1 to 1) .....	15
4.4 SCADA All-In-One Products.....	17
4.5 S-FastLink Industrial Data Acquisition Platform (" S-FastLink Industrial Data Platform ")	19
5. Product list.....	20
5.1. List of CNC Industrial Gateways (1 to 1).....	20
5.2. Injection Molding Machine Industrial Gateway List (1 to 1).....	22
5.3. List of PLC Industrial Gateways (1 to 1) .....	24
5.4. SCADA All-In-One List (1 to many).....	26
6. Protocol interconnection description.....	28

## **1. Why do you need industrial data Gateway products?**

### **1.1 Production process data is missing**

The current information system of the enterprise can only handle the management information such as work order, report and direct result, while the collection and management of processing data is missing, resulting in the information system can not cover all business scenarios of the enterprise and cannot form a closed loop of data.

### **1.2 Lack of product quality control in the production process**

Factory develop product process standards to ensure product quality, but the implementation and supervision of process standards in the production process requires a lot of manpower, resulting in insufficient or missing process standards supervision, more is to ensure the quality of finished products through quality inspection means, enterprises need a management tool that can monitor the implementation of process standards and monitor the production environment in real time.

### **1.3 Manual statistical data is inefficient and has errors**

Traditional manual statistical data requires employees to view data locally on each device, which is inefficient and may cause errors due to human factors, and the data collection efficiency is low, which cannot meet the real-time and accuracy requirements of enterprises for data.

## **1.4 Production management personnel need to control the workshop production situation in real time**

Production managers can only understand the real-time production situation when they are on the shop floor, and can only see the real-time status. It is necessary to provide managers with a tool that can both view the panoramic status of the shop floor in real time and trace the historical status

## 2. How to apply industrial data Gateway products?



The product application is composed of transmission acquisition gateway and S-FastLink industrial data acquisition platform. The front-end industrial gateway is connected with CNC numerical control system, injection molding machine, PLC, sensor, etc. through network port or serial port to automatically collect production process data, including equipment status, production data, efficiency data, alarm data, energy consumption data, environmental data, etc. The management platform includes equipment management, real-time monitoring, data analysis and other modules, integrates a variety of styles of large-screen display interface, and supports industrial configuration design functions. The system supports C/S or B/S architecture, and users can access the system through a browser or a small program

### **3. What is the value of an industrial data gateway**

#### **3.1 Production process real-time monitoring**

It can collect the running status of production equipment, processing parameters, production environment data, production energy consumption data, etc., and display it to managers through various ways such as workshop large screen, computer terminal, and mobile phone terminal small program, helping managers at all levels to control workshop production in real time and improve enterprise information transparency and management level.

#### **3.2 Multi-dimensional data integration and analysis to improve production efficiency**

Automatic statistics of the production results of each equipment, production efficiency and other data, without manual intervention, the data is more authentic and credible. The system records the operation data of the equipment at all times, and can classify, compare, and analyze the trend from multiple dimensions such as time, product, personnel, and equipment to find out the efficiency depressions in the production process and improve the overall production efficiency.

#### **3.3 The accuracy of production results is improved**

Real-time monitoring of the process parameters of the production process, real-time reminder of anomalies, and effectively avoid product quality problems caused by factors such as non-implementation of process standards and substandard production environment.

### **3.4 Accumulate enterprise data assets**

It can accumulate objective, accurate and whole-time production process data for enterprises. When enterprises have enough and effective production process data, data will become a new production factor for enterprises, which can provide rational decision-making basis for managers, provide basic data support for enterprises' digital transformation and business optimization, and help enterprises transform from empirical decision-making to data-driven decision-making.

## 4.Product introduction

### 4.1 CNC Industrial Gateway Products (1 to 1)



One CNC gateway collects one CNC device

#### 4.1.1. CNC gateway hardware advantages

- Industrial electromagnetic standard, stable and reliable anti-interference
- Wide temperature and wide pressure design
- ★Easy to install, there are two mounting ear and rail
- Built-in CNC drive, one box supports most CNC capture
- Support network port and WIFI networking
- ★Support for multiple CNC device management

#### 4.1.2. CNC gateway software advantages












- Simple and convenient installation, low requirements for construction personnel
- MQTT uplink data, less coupling with the application platform, Customize the Topic
- ★ Support reverse control, support control parameter breakpoint maintenance
- Support data caching, breakpoint recovery, data is not lost
- Support edge computing to generate alarms based on conditions
- Support alarm classification, the application can be notified and statistics according to the classification
- Supports rich reporting policies and edge data cleaning
- The control function can be completed by itself according to the MES strategy
- ★Support custom drivers



### 4.1.3. CNC gateway features advantages

- ★ Support processing program delivery, can be issued according to the work order processing program
- Support machine tool control, which can start and stop the machine tool according to the strategy
- ★ Support tool parameter acquisition and life management
- Supports collection and delivery of macro parameters

### 4.1.4. Support [CNC] brand and model list

Brand	Description
	Any device with a network port is acceptable. If no network port is available, add a NIC
	828D, 840DSL, 810D, 840D (810D and 840D require MPI to NET module)
	Smart series, smooth series, 640, Matrix plug-ins need to be installed in the windows system of the machine tool
	Supports versions later than 10.116
	M70, M80, M700, M800, C6, C64
	426, 430, 530, 640
	
	K2000, K1000 C/Ci/F/Fi series, K1000TTCi series
	Network card machine, dry series (model is 4-digit)
	
	Network card machine

Note: Please confirm whether the CNC device and system have data communication interfaces. Common interfaces are Ethernet ports and serial ports.

#### 4.1.5. The CNC gateway collects indicators/fields

The CNC gateway collects indicators/fields			
<b>Equipment condition monitoring</b>	Running state	<b>Work result presentation</b>	Cumulative processing times
	Device information		Program list
	Absolute coordinate		Download program
	Relative coordinates		Delete program
	Processing mode		
	Current alarm message	<b>Process standard presentation</b>	Spindle speed
	Mechanical coordinate		★ Tool number
<b>Work efficiency statistics</b>	Boot time		Tool compensation
	Running time		macroparameter
	Cutting time		PLC parameter
	Start-up time		Feed rate
	Cycle time		
	Processing time		

## 4.2 Injection Molding machine industrial gateway products (1 to 1)



One gateway collects one injection molding machine equipment

### 4.2.1. Injection molding machine gateway hardware advantages

- Industrial electromagnetic standard, stable and reliable anti-interference
- Wide temperature and wide pressure design
- Easy to install, there are two mounting ear and rail
- Built-in CNC drive, one box supports most CNC capture
- Support network port and WIFI networking
- Supports the management of multiple CNC devices







### 4.2.2. Injection molding machine gateway software advantages

- Support parameter customization
- Support process data acquisition
- Support SPC parameter collection
- Offset of parameters is complete

### 4.2.3. Injection molding machine gateway function advantage

- Support processing program delivery, processing program can be issued according to the work order
- Support machine tool control, which can start and stop the machine tool according to the strategy
- Support tool parameter acquisition and life management
- Supports collection and delivery of macro parameters

#### 4.2.4. Support [Injection molding machine] brand and model list

Brand	Description
 TECHMATION Innovation in Motion	PILOT3 5530/5531/TECH580TECH1/TECH2/AK580/A380/AK668/CP6K/CP7K
	Ai01/Ai02/Ai11/Ai12/CPC03/CPC06/CPC07/CPC09/MPC6/MPC7
	PS860/PS660/PS560/MS300/MS500/MS700/ML200B/ML300B/ML600B MK100/MK116/MK110/MK150/MK1030
 EST 伊士通技术	IA621/A501/A701
	T6F3/T6F5/A6T5/TECHTOP3/TECHTOP5
	9118 MX1
	MPC303, MPC600

Note: Please confirm whether the CNC device and system have data communication interfaces. Common interfaces are Ethernet ports and serial ports.

#### 4.2.5. Injection molding machine gateway acquisition indicators/fields

Injection molding machine gateway acquisition indicators/fields							
SPC production process control data	module	CYCN	Cycle number	Process parameter	Set temperature	TS1 ... TS10	One to ten paragraphs
	Cycle time	ECYCT	Cycle time		Injection pressure	IP1 ... IP10	
	Injection origin	EISS	inj stroke start		Injection rate	IV1 ... IV10	
	Maximum rate of fire	EIVM	inj V max		Injection site	IS1... IS10	
	Maximum injection pressure	EIPM	inj speed max		Pressure holding switching time	IPT	
	Transfer retention time	ESIPT	Switch inj pock time		Pressure holding switch position	IPS	
	Transfer retaining pressure	ESIPP	Switch Inj pock press		Pressure holding switching pressure	IPP	
	Switch to holding	ESIPS	Switch Inj pock stroke		Holding pressure	PP1... PP10	

	position					
	Exit time	EIPT	Inj time	Pressure holding speed	PV1 ... PV10	
	Storage time	EPLST	Plast time	Holding time	PT1 ... PT10	
	Storage end point	EPLSSE	PLast stroke end	Forward firing distance/position	SBS1	
	Maximum storage pressure	EPLSPM	Plast press max	Pre-storage ejection time	SBT1	
	Production temperature	ET1... ET10		Storage speed	PLV1 ... PLV10	
	Exit position	EIPSE	E inj stroke end	Storage pressure	PLP1 ... PLP10	
Process parameter	Set temperature	TS1 ... TS10	一段到十段	Storage back pressure	PLBP1 ... PLBP10	
	Injection pressure	IP1 ... IP10		Storage location	PLS1 ... PLS10	
	Injection rate	IV1 ... IV10		Ejection velocity	SBV2	
	Injection site	IS1... IS10		Ejection pressure	SBP2	
	Pressure holding switching time	IPT		Ejection distance/position	SBS2	
	Pressure holding switch position	IPS		Ejection time	SBT2	
	Pressure holding switching pressure	IPP		Cooling time	CT	
	Holding pressure	PP1... PP10		Closing speed	MCV1 ... MCV10	
	Pressure holding speed	PV1 ... PV10		Closing pressure	MCP1 ... MCP10	
	Holding time	PT1 ... PT10		Die opening speed	MOV1 ... MOV10	

	Forward firing distance/position	SBS1			Die opening pressure	MOP1 ... MOP10	
	Pre-storage ejection time	SBT1			Jacking velocity	EFV1 ... EFV3	
	Storage speed	PLV1 ... PLV10			Jacking pressure	EFP1 ... EFP3	
	Storage pressure	PLP1 ... PLP10			Jacking position end point	EFS1 ... EFS3	
	Storage back pressure	PLBP1 ... PLBP10			Ejection velocity	EBV1 ... EBV3	
	Storage location	PLS1 ... PLS10			Jacking pressure	EBP1 ... EBP3	
	Ejection velocity	SBV2			End of apical retreat position	EBS1 ... EBS3	
	Ejection pressure	SBP2			temperature	T1 ... T10	
	Ejection distance/position	SBS2		温度数据	Operation mode Set temperature Injection pressure Injection rate Injection site Pressure holding switching time	OPM	Operate Mode
	Ejection time	SBT2					0:手动
	Cooling time	CT					1:半自动
	Closing speed	MCV1 ... MCV10					2:电眼自动
	Closing pressure	MCP1 ... MCP10					3:时间自动
	Die opening speed	MOV1 ... MOV10					4:调膜使用
	Die opening pressure	MOP1 ... MOP10					
	Jacking velocity	EFV1 ... EFV3			Pressure holding switching pressure		
	Jacking pressure	EFP1 ... EFP3			Holding pressure		

Jacking position end point	EFS1 ... EFS3			Pressure holding speed		
Ejection velocity	EBV1 ...EBV3			Holding time		
Jacking pressure	EBP1 ... EBP3			Forward firing distance/ position		
End of apical retreat position	EBS1 ...EBS3			Pre-storage ejection time		

### 4.3 PLC Industrial Gateway Products (1 to 1)



One PLC gateway can collect only one PLC device

#### 4.3.1. PLC gateway hardware advantages

- Industrial electromagnetic standard, stable and reliable anti-interference
- Wide temperature and wide pressure design
- Easy to install, there are two mounting ear and rail
- Built-in CNC drive, one box supports most CNC capture
- Support 4/5G, network port, WIFI networking
- Supports the management of multiple CNC devices

#### 4.3.2. PLC gateway software advantages













- Support parameter customization
- Support process data acquisition

- Support SPC parameter collection
- Offset of parameters is complete







#### 4.3.3. PLC gateway function advantage

- Customize parameters according to the PLC address table
- Support network port and serial port protocol collection and monitoring collection
- Supports hard forwarding of serial ports
- Support point table monitoring, some scenarios do not need point table collection
- Support serial port and network port drag two, no PLC expansion module
- Supports multiple serial port formats
- PLC can be controlled in real time according to the point table

#### 4.3.4. Support [PLC] brand and model list

Brand	Description
	Fins,CIP, HostLink serial port, HostLink network port
	
	S7, PPI,
	A1E, MC, A-3C
	MC-3E, MewTocol
	Ads
	XGB, XGK
	Inovance
	MC-3E, Nano
	CIP, SLC
	SRTP
	Memobus



	DigitronCPL
	Fat Progame
	SPB, SPH
	XinJE
	Megmeet
	Yokogawa

Note: Please confirm whether the CNC device and system have data communication interfaces. Common interfaces are Ethernet ports and serial ports.

#### 4.4 SCADA All-In-One Products



One SCADA can collect multiple CNC\PLC\ injection molding machine equipment

##### 4.4.1. SCADA All-In-One hardware advantages

- Quiet fan design, long run without noise
- Wide temperature and wide pressure design
- Wide temperature design, not afraid of harsh industrial environment, -40°C -60°C
- Built-in CNC drive, one box supports most CNC capture
- Support multiple CNC, PLC, injection molding machine equipment access management
- Industrial design, 7\*24 hours operation, all-weather skipping, no downtime, industrial collection is guaranteed

#### **4.4.2. SCADA All-In-One software advantages**

- Support for modular loading protocols
- Support self-developed protocols and debugging
- Support model reuse and custom models
- Support local deployment or cloud deployment
- Supports local computation and event generation
- Support write back control instructions to the controller
- Support off network cache data
- Support the configuration of some brands DTU

#### **4.4.3. SCADA All-In-One function advantages**

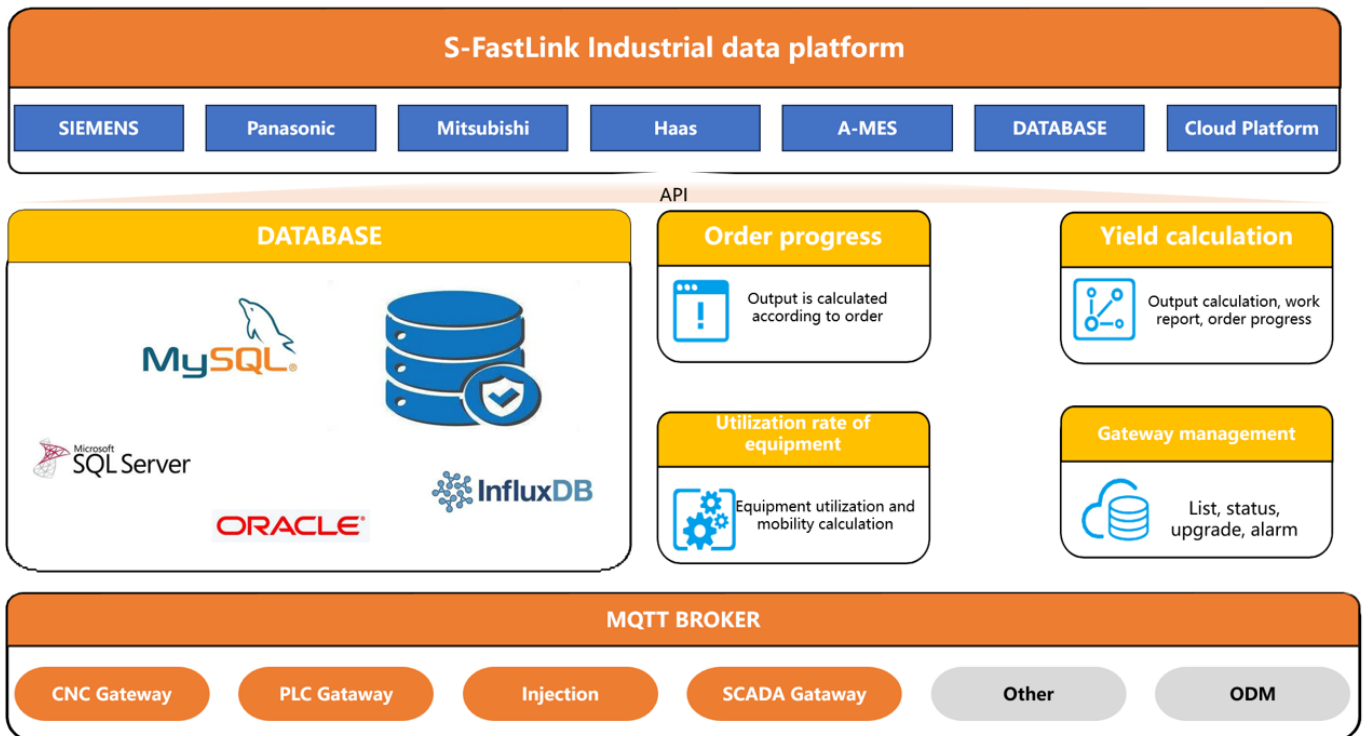
Refer to 4.1.3, 4.2.3, 4.3.3

#### **4.4.4. Support brand and model list**

Refer to 4.1.4, 4.2.4, 4.3.4

## 4.5 S-FastLink Industrial Data Acquisition Platform (" S-FastLink Industrial Data Platform ")

### 4.5.1. S-FastLink Industrial data platform



### 4.5.2. Platform advantage

- Support multiple device access, support all kinds of protocol resolution
- High concurrency, see specification for test model
- Support stream computing
- Supports centralized gateway management
- Provide HTTP interface access
- Support parameter status query at any time
- Supports multiple database switching
- The output of specific equipment can be calculated according to the order

## 5. Product list

### 5.1. List of CNC Industrial Gateways (1 to 1)

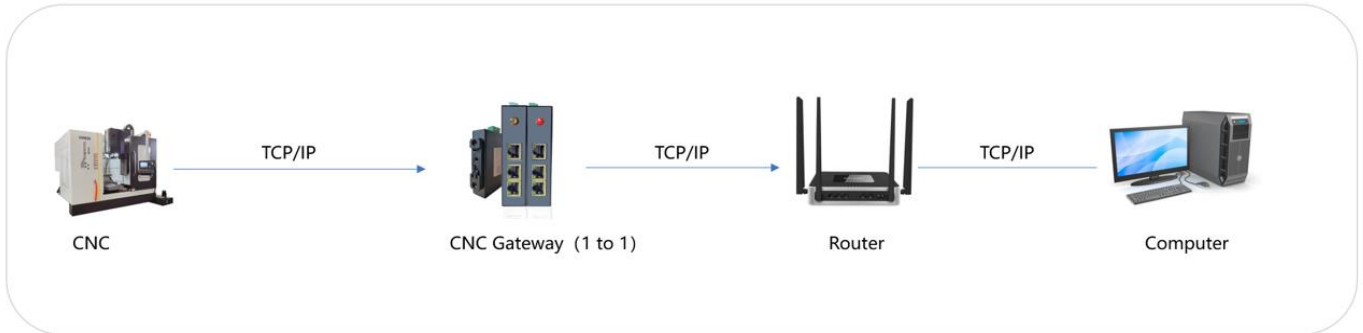
#### 5.1.1. Application scenarios of CNC gateway

Metal parts processing plant, mold factory industry, CNC equipment stand-alone operation data, production data is stored locally, production management personnel can not real-time, remote, centralized access, need to view each device. The CNC equipment itself has only single data acquisition capability, without automatic analysis function.

#### 5.1.2. List of CNC gateway products

No	Device	Parameter	Modle No	Manufacturer	place of origin	Brand	Unit	Quantity	price	Remark
1	CNC Gateway	<ul style="list-style-type: none"> <li>• ★ Support processing program delivery, can be issued according to the work order processing program</li> <li>• Support machine tool control, which can start and stop the machine tool according to the strategy</li> <li>• Support tool parameter acquisition and life management</li> <li>• Supports collection and delivery of macro parameters</li> </ul>	SS-CNC-WDGATEWAY01	Simsin Electronic Technology Co., Ltd	China	SiMSiN	piece	1	/	Required
2	S-FastLink platform	supports CNC gateway equipment management, data acquisition and analysis	SS-S-FastLink	Simsin Electronic Technology Co., Ltd	China	SiMSiN	piece	1	/	Required
3	串口转网口	RS-232 转 RJ45	SS-CNT-232TR45	国产	中国	国产	台	1	/	optional
4	485 转网口	RS-485 转 RJ45	SS-CNT-485TR45	国产	中国	国产	台	1	/	optional
5	路由器	百兆 4 网口, 支持 POE	SS-NET-100M4CHPE	国产	中国	国产	台	1	/	optional
6	防水箱	防尘、防水, 可内置电源	SS-CAS-5INCH-A	国产	中国	国产	台	1	/	optional
7	显示器	21 寸 平面显示器	21inch Monitor	国产	中国	国产	台	1	/	optional
8	主机	Intel 2.4G 4 核 500G HDD	PC host	国产	中国	国产	台	1	/	optional
9	网线	六类双绞线	UPT Cable	国产	中国	国产				optional

### 5.1.3. The CNC gateway is connected to the network



### 5.1.4. CNC gateway installation conditions

◆ **The following requirements are met:**

1. The CNC is running properly
2. CNC equipment has RJ45 network port or RS-485\RS-232 serial port
3. CNC equipment manufacturers provide equipment protocol resolution documentation
4. One CNC equipment maintenance personnel or user personnel is required to start and stop the equipment
5. The CNC gateway installation position is reserved on site, and the installation position has AC220V strong power panel (three or two plugs).
6. One strong power engineer is required onsite to connect the power supply
7. The site needs to determine the system user and the work computer, and the work computer is connected to the Internet normally

## 5.2. Injection Molding Machine Industrial Gateway List (1 to 1)

### 5.2.1. Injection molding machine gateway application scenario

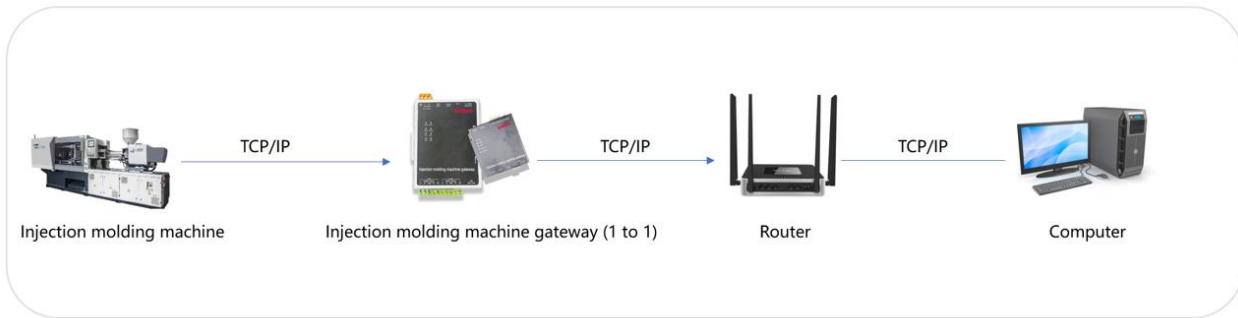
Injection molding machine is an important production line equipment, injection molding machine equipment single operation data, production data local storage, production management personnel can not real-time, remote, centralized access, need to view each equipment. Injection molding machine equipment itself only has the ability of single data acquisition, no automatic analysis function.

### 5.2.2. Injection molding machine gateway product list

No	Device	Parameter	Modle No	Manufacturer	place of origin	Brand	Unit	Quantity	price	Remark
1	Injection molding machine gateway	<ul style="list-style-type: none"> <li>• Support parameter customization</li> <li>• Support process data acquisition</li> <li>• Support SPC parameter collection</li> <li>• Offset of parameters is complete</li> <li>• Support processing program delivery, processing program can be issued according to the work order</li> <li>• Support machine tool control, which can start and stop the machine tool according to the strategy</li> <li>• Support tool parameter acquisition and life management</li> <li>• Supports collection and delivery of macro parameters</li> </ul>	SS-IMM-WDGATEWAY02	Simsin Electronic Technology Co., Ltd	China	SIMSIN	piece	1	/	Required
2	S-FastLink platform	Support injection molding machine gateway equipment management, data acquisition and analysis	SS-S-FastLink	Simsin Electronic Technology Co., Ltd	China	SIMSIN	piece	1	/	Required
2	串口转网口	RS-232 转 RJ45	SS-CNT-232TR45	国产	中国	国产	台	1	/	optional
3	485 转网口	RS-485 转 RJ45	SS-CNT-485TR45	国产	中国	国产	台	1	/	optional
4	路由器	千兆 4 网口, 支持 POE	SS-NET-100M4CHPE	国产	中国	国产	台	1	/	optional
5	防水箱	防尘、防水, 可内置电源	SS-CAS-5INCH-A	国产	中国	国产	台	1	/	optional

6	显示器	21 寸 平面显示器	21inch Monitor	国产	中国	国产	台	1	/	optional
7	主机	Intel 2.4G 4核 500G HDD	PC host	国产	中国	国产	台	1	/	optional
8	网线	六类双绞线	UPT Cable	国产	中国	国产				optional

### 5.2.3. Injection molding machine gateway access network



### 5.2.4. Injection molding machine gateway installation conditions

◆ **The following requirements are met:**

1. Injection molding machine equipment runs normally
2. Injection molding machine equipment with RJ45 network port or RS-485\RS-232 serial port
3. Injection molding machine equipment manufacturers to provide equipment agreement clear documentation
4. One injection molding machine equipment maintenance personnel or users are required to start and stop the equipment
5. The installation position of injection molding machine gateway is reserved on site, and the installation position has AC220V strong current panel (three or two inserts).
6. One strong power engineer is required onsite to connect the power supply
7. The site needs to determine the system user and the work computer, and the work computer is connected to the Internet normally

## 5.3. List of PLC Industrial Gateways (1 to 1)

### 5.3.1. Application scenario of PLC gateway

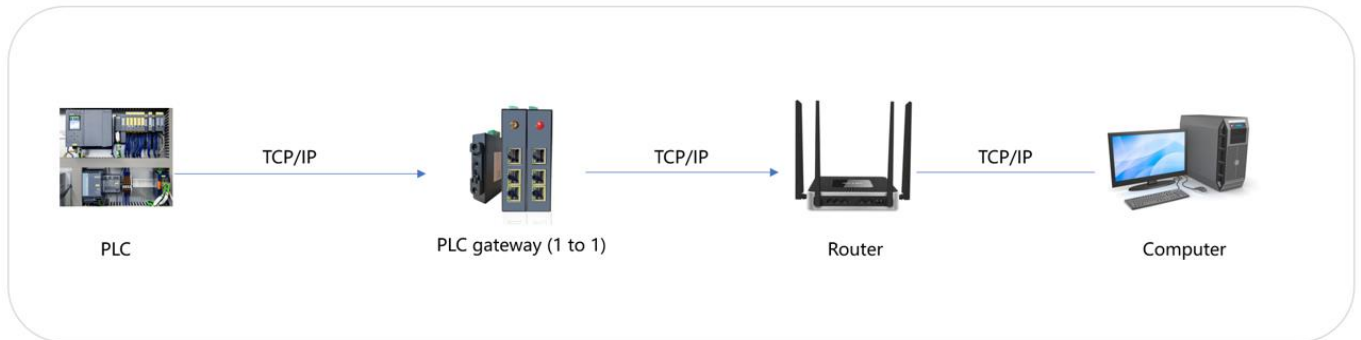
In the manufacturing and processing industries, PLC equipment runs on a single machine, data is displayed on the machine, there is no storage, and production personnel cannot obtain real-time, remote, and centralized access, and they need to view each device. A single PLC device only collects data of a single industrial equipment, without automatic analysis function, and the unified monitoring of the production data of the whole plant is in a blank area.

### 5.3.2. PLC gateway product list

No	Device	Parameter	Modle No	Manufacturer	place of origin	Brand	Unit	Quantity	price	Remark
1	PLC gateway	<ul style="list-style-type: none"> <li>Support parameter customization</li> <li>Support process data acquisition</li> <li>Support SPC parameter collection</li> <li>Offset of parameters is complete</li> </ul>	SS-PLC-WDGATEWAY03	Simsin Electronic Technology Co., Ltd	China	SIMSIN	piece	1	/	Required
2	S-FastLink platform	Support injection molding machine gateway equipment management, data acquisition and analysis	SS-S-FastLink	Simsin Electronic Technology Co., Ltd	China	SIMSIN	piece	1	/	Required
2	串口转网口	RS-232 转 RJ45	SS-CNT-232TR45	国产	中国	国产	台	1	/	optional
3	485 转网口	RS-485 转 RJ45	SS-CNT-485TR45	国产	中国	国产	台	1	/	optional
4	路由器	百兆 4 网口, 支持 POE	SS-NET-100M4CHPE	国产	中国	国产	台	1	/	optional
5	防水箱	防尘、防水, 可内置电源	SS-CAS-5INCH-A	国产	中国	国产	台	1	/	optional
6	显示器	21 寸 平面显示器	21inch Monitor	国产	中国	国产	台	1	/	optional
7	主机	Intel 2.4G 4 核 500G HDD	PC host	国产	中国	国产	台	1	/	optional
8	网线	六类双绞线	UPT Cable	国产	中国	国产				optional



### 5.3.3. PLC gateway is connected to the network



### 5.3.4. PLC gateway installation conditions

◆ **The following requirements are met:**

1. PLC equipment runs normally
2. PLC equipment has RJ45 network port or RS-485\RS-232 serial port
3. PLC equipment manufacturers provide equipment protocol resolution documentation
4. One PLC equipment maintenance personnel or user personnel is required to start and stop the equipment
5. The installation position of PLC gateway is reserved on site, and the installation position has AC220V strong current panel (three or two slots).
6. One strong power engineer is required onsite to connect the power supply
7. The site needs to determine the system user and the work computer, and the work computer is connected to the Internet normally

## 5.4. SCADA All-In-One List (1 to many)

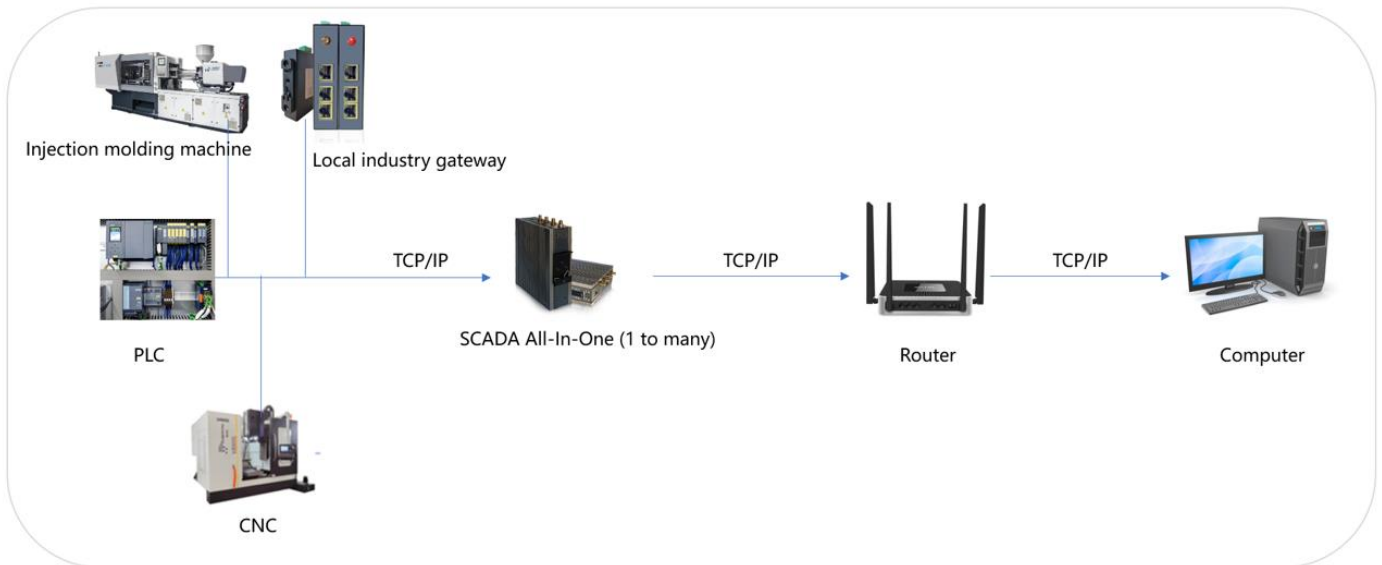
### 5.4.1. SCADA All-In-One application scenario

The manufacturing and processing industries involve many types of industrial equipment, and there is no unified collection of production equipment data, and there is no unified industrial production data analysis platform.

### 5.4.2. SCADA All-In-One product list

No	Device	Parameter	Modle No	Manufacturer	place of origin	Brand	Unit	Quantity	price	Remark
1	SCADA All-In-One	<ul style="list-style-type: none"> <li>• Support for modular loading protocols</li> <li>• Support self-developed protocols and debugging</li> <li>• Support model reuse and custom models</li> <li>• Support local deployment or cloud deployment</li> <li>• Supports local computation and event generation</li> <li>• Support write back control instructions to the controller</li> <li>• Support off network cache data</li> <li>• Support the configuration of some brands DTU</li> </ul>	SS-PLC-WDGATEWAY03	Simsin Electronic Technology Co., Ltd	China	SiMSiN	piece	1	/	Required
2	S-FastLink platform	Support injection molding machine gateway equipment management, data acquisition and analysis	SS-S-FastLink	Simsin Electronic Technology Co., Ltd	China	SiMSiN	piece	1	/	Required
3	串口转网口	RS-232 转 RJ45	SS-CNT-232TR45	国产	中国	国产	台	1	/	optional
4	485 转网口	RS-485 转 RJ45	SS-CNT-485TR45	国产	中国	国产	台	1	/	optional
5	路由器	百兆 4 网口，支持 POE	SS-NET-100M4CHPE	国产	中国	国产	台	1	/	optional
6	防水箱	防尘、防水，可内置电源	SS-CAS-5INCH-A	国产	中国	国产	台	1	/	optional
7	显示器	21 寸 平面显示器	21inch Monitor	国产	中国	国产	台	1	/	optional
8	主机	Intel 2.4G 4 核 500G HDD	PC host	国产	中国	国产	台	1	/	optional
9	网线	六类双绞线	UPT Cable	国产	中国	国产				optional

### 5.4.3. SCADA All-In-One is connected to the network



### 5.4.4. SCADA All-In-One installation conditions

◆ **The following requirements are met:**

1. The SCADA device runs properly
2. SCADA equipment has RJ45 network port or RS-485\RS-232 serial port
3. SCADA equipment manufacturers provide equipment protocol resolution documentation
4. One SCADA equipment maintenance personnel or user personnel is required to start and stop the equipment
5. The SCADA gateway installation position is reserved on site, and the installation position has AC220V strong power panel (three or two plugs).
6. One strong power engineer is required onsite to connect the power supply
7. The site needs to determine the system user and the work computer, and the work computer is connected to the Internet normally

## 6. Protocol interconnection description

The data acquisition gateway communicates with the upper layer system through MQTT protocol, and the message uses the standard JSON format.

The MQTT server, client ID, and TOPIC can be configured on the device. The format of an example message is as follows:

```
{  
  "ID": "cnc202006280001",    //设备编  
                             码  
  "ver": "opne-             //协议版本  
mqtt20200713",             //时间戳  
  "time": "1663981587",  
  "data": {  
    "cncStatus": "Running",  //运行状  
                             态
```

```
"cncModel": //工作模式
"MEMory", //报警信息
"alarmmsg": "", //运行时间
//开机时间
"runTime": 21388,
//切削时间
"poweOnTime": 24551,
//循环时间
"cuttingTime": 34683,
//主程序名
"cycleTime": 56434,
//运行程序名
"mainName": //工件数
"O2100N", //总工件数
"runName": "", //主轴设置速度
"workPiece": "436", //进给设置速度
"totalWorkPiece": "6525", //主轴转速
"spindSet": "900", //进给速度
"feedSet": "900", //主轴倍率
"spindSpeed": "908", //进给倍率
"feedSpeed": "899",
"spindRate": "100",
"feedRate": "100"
}
}
```