# NIETZ

Innovation & Technology

## Programmable Logic Controller

Industrial Automation Trusted Provider

Intelligent Control

Procuct Manuals

# NIETZ  Nietz Electric Co.,Ltd

Tel: +86 21 33634649          Skype: aliaosa5

E-mail: info@nietz.cn          http://www.nietz.cn

WhatsApp: +86 13764513349    QQ: 744758892

Add: No.988, Fu lian Rd., min hang Industry, shanghai, china

sales & Service Address

# ABOUT NIETZ

Nietz Electric Co., Ltd. is located in Shanghai, China. It is a high-tech enterprise focusing on the research and development, manufacturing and sales of PLC and industrial automation control. It has a modern factory building of 27,000m2 and is one of the most powerful global suppliers of industrial automation equipment.

Since its establishment, the company has always taken technological innovation as its core driving force and has been deeply involved in the field of industrial control. At present, it has formed a complete product system covering simple PLC, operation and control PLC, bus PLC and coupler, IO module and functional module. Among them , PLC products adopt modular design, integrate high-speed computing, multi-axis control, network communication and other functions, support Modbus, CANopen and other industrial protocols, and can accurately realize complex logic control and data interaction. With the advantages of stable performance and strong compatibility, the company's solutions are widely used in intelligent transformation of automated production lines, intelligent warehousing and logistics, energy and environmental protection equipment, as well as special equipment such as printing equipment and textile machinery. With the vision of "becoming a leader in industrial automation", the company continues to provide manufacturing customers with integrated industrial control solutions from hardware to software to promote the automation and digital upgrade of the industry.

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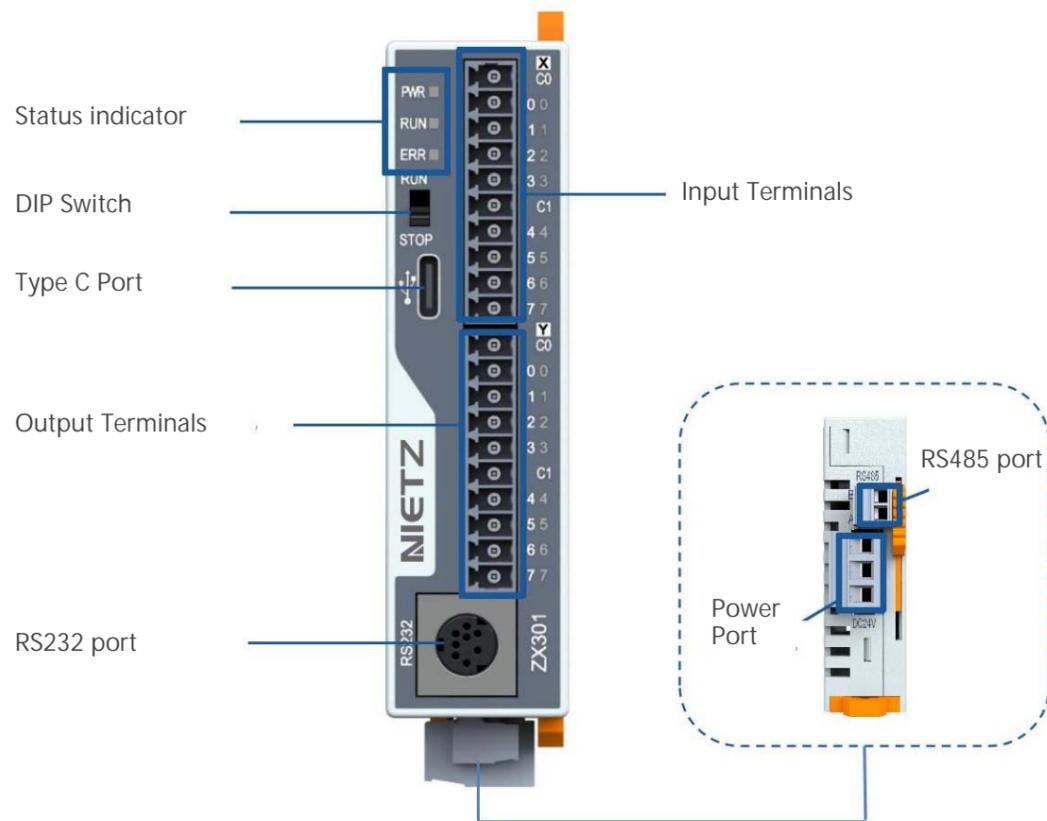
# ZX300 Series PLC

# Products Feature

The ZX300 series PLC is a small PLC system launched by Nietz in response to market demand. Designed to be compatible with the Mitsubishi FX3U series, it features the in-house developed ZX Works programming system (under development, with future support). It supports ladder diagram programming and can implement functions such as pulse commands. It is primarily used for general logic control and, in conjunction with our inverters and pulse servos, can implement logic control and simple motion control. Supporting Modbus RTU communication, it can connect to slave devices such as sensors and inverters via the Modbus bus protocol, enabling data exchange with human-machine interfaces (HMIs).

## Advantage

### Diversified function control

- The 301 supports up to 4 high-speed pulse outputs and 4 single-phase high-speed input counters, or 1 AB phase + 2 single-phase high-speed counting inputs.
- The 305 supports up to 5 channels of high-speed pulse output: the first 2 channels at 200kHz and the last 3 channels at 100kHz; it also supports 2 channels of AB-phase high-speed counting or 3 channels of single-phase high-speed counting.

### Rich instruction set

- A 64,000-step program storage unit and 16K of power-off retained data meet the needs of most logic control requirements.
- RS232 communication port: supports Modbus RTU master-slave communication; supports downloading and monitoring user programs
- RS485 communication port: Supports Modbus RTU master-slave communication; ZX305 and ZX351 support RS485 download of monitoring programs.
- Type-C communication port: Supports Type-C download and monitoring. (User program)
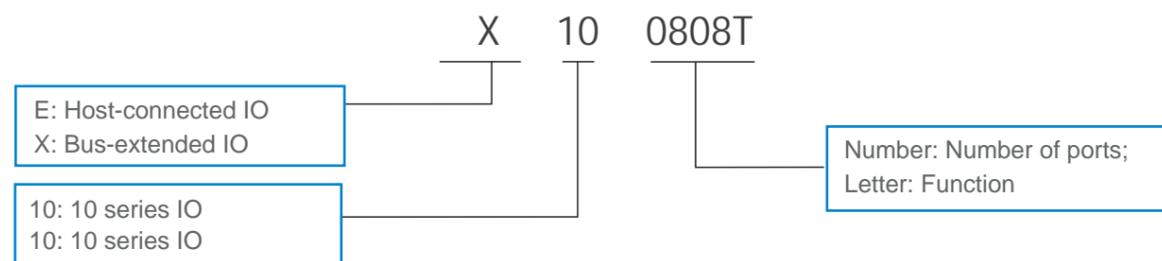
### Rich instruction set

- Self-developed programming environment ZxWorks, easy to use and convenient to program
- Compatible with Mitsubishi programming software, similar to most small PLC programming instructions
- The ZX301 and ZX305 support both the X10 and E10 series expansion modules, while the ZX305 supports the E15 series expansion modules.
- The ZX301 supports up to 12 X10 series expansion modules and 1 E10 series expansion module (E10 series modules are limited to the first one on the right). The ZX305 supports up to 1 E15 series expansion module (E15 series modules are limited to the first one on the right) or 1 E10 series expansion module (E10 series modules are limited to the first one on the right).

Status indicator

DIP Switch

Type C Port

Output Terminals

RS232 port

Input Terminals

RS485 port

Power Port

# PLC Model

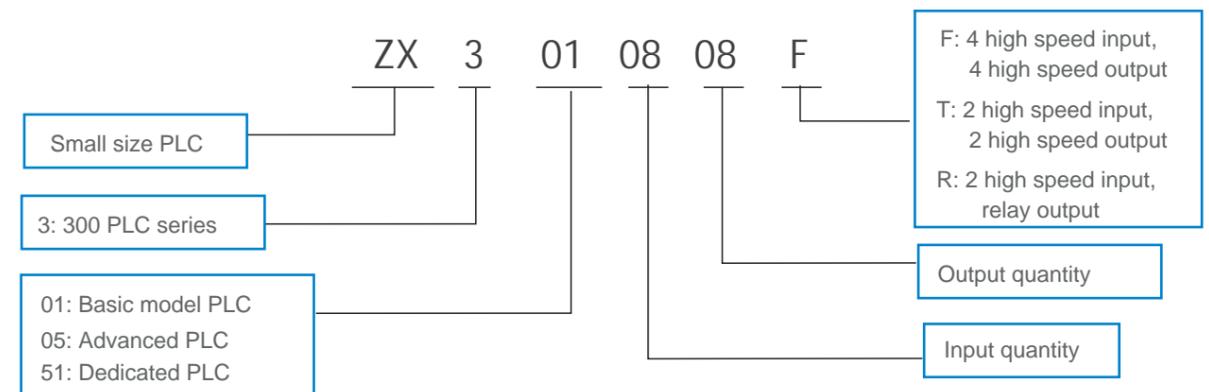| Model | ZX301-0808T | ZX301-0806R | ZX301-0808F | ZX305-0808F |
|---|---|---|---|---|
| Product image | | | | |
| Input Power | DC24V±10%, maximum 4A, typical 2.4A Support short circuit/reverse connection protection, no external UPS required | | | |
| Data/storage capacity | 128K or 64,000-step program storage unit and 4K power failure-retaining data capacity | | | |
| High-speed counting | Single-ended 4-channel high-speed counting (100K) or AB phase 2-channel high-speed counting (100K) | | Single-ended 4-way high-speed counting (100K)or AB phase 1-way+si ngle-ended 2-channel high-speed counting(100K) | Single-ended 3-way high-speed counter (100K) or AB-phase 2-way high-speed counter (100K) |
| Input and Output | The main unit has 8 inputs and 8 outputs (including high -speed inputs and outputs). | The main unit features 8 inputs and 6 relay outputs (including high-speed inputs). | The main unit has 8 inputs and 8 outputs (including high-speed inputs and outputs). | |
| Pulse output | 2 high-speed outputs (100K) | Relay output | 4 high-speed outputs (100K) | 5 high-speed outputs (100K) |
| Program execution mode | Cyclic scanning, parsing and execution | | | |
| Power-off retention | 1s | | | |
| Communication | 1 way RS232; 1 way RS485 | | | |
| RUN/STOP | Supports PLC RUN/STOP Control | | | |
| Expansion Modules | E10 series ( Directly connect to PLC, max 1 unit) X10 series ( Modbus connect  to PLC, max. 12 units) | | | E10 series/E15 series (direct connection to host, max 1 unit); X10 series (communication connection to host,max 12 unit ). |
| Prog. SoftWare | Zx Works, Mitsubishi Gx Works2 | | | |
| Modbus communication | Support Modbus RTU communication | | | |
| USB communication | The Type-C interface can realize program download, monitoring, debugging, and firmware update. | | | |

## Expansion Module Code

X    10    0808T

E: Host-connected IO
X: Bus-extended IO

10: 10 series IO
10: 10 series IO

Number: Number of ports;
Letter: Function

■ PLC designed for Grinding Machine

| Model | ZX351 |
|---|---|
| Product image | |
| Input Power | DC 24V±20%, maximum 4A, typical 2.4A, supports short-circuit and reverse polarity protection, no external UPS required. |
| Data/storage capacity | 128K or 64,000-step program memory capacity and 4K non-volatile data storage capacity. |
| High-speed counting | Single-ended 3-channel high-speed counting (100K) or AB phase 2-channel high-speed counting (100K) |
| Input and Output | The main unit has 8 inputs and 8 outputs (including high-speed inputs and outputs). |
| Pulse output | 5-channel high-speed output (2 channels at 200Kbps, 3 channels at 100Kbps) |
| Power-off retention | 1s |
| Communication | 1 RS232 port; 1 RS485 port |
| RUN/STOP | It can realize the operation of PLC start/stop. |
| RUN/STOP | The ZX351 is a PLC controller specifically designed for tool grinding machines. It is deeply adapted to multi-tool 3 precision grinding scenarios, fully supporting grinding processes for various tools such as end mills, ball nose cutters, chamfering cutters, and ball end mills. Its core advantages lie in its ability to achieve multi-axis coordinated interpolation motion, precisely controlling the grinding path and accuracy; and its integrated Modbus communication interface, facilitating system integration and data transmission. |

## Products Code

ZX    3    01    08    08    F

Small size PLC

3: 300 PLC series

01: Basic model PLC
05: Advanced PLC
51: Dedicated PLC

Input quantity

Output quantity

F: 4 high speed input,
    4 high speed output

T: 2 high speed input,
    2 high speed output

R: 2 high speed input,
    relay output

# Expasion Modules

■ Host direct type

| Model | E10-0808T | E10-0808R |
|---|---|---|
| Product image |  |  |
| Interface | 8-channel DI and 8-channel DO/NPN sink output | 8-channel DI and 4 groups of 8-channel relay outputs |
| Parameter | Isolation method: Optocoupler isolation<br>Rated voltage: 24VDC+20%<br>Current consumption: Single point max. 0.3A | Isolation: Optocoupler/Relay<br>Rated voltage: 24VDC+20%<br>Current Consumption: Maximum 5A per point<br>Output: AC 250V/DC 30V 5A |

| Model | E15-USB | E15-0808U | E15-2SCOM |
|---|---|---|---|
| Product image |  |  |  |
| Interface | Supports downloading programs via USB flash drive (firmware upgrades will be supported in the future). | 8-input 8-output transistor NPN type output; supports USB flash drive program download and firmware upgrade. | 2-way serial communication expansion module |
| Parameter | USB 2.0: Supports FAT32 format | Isolation method: Optocoupler isolation<br>Rated voltage: 24VDC+20%<br>Current Consumption: Maximum 0.3A per point<br>USB20: Supports FAT/FAT32 format | 1-channel RS485 communication;<br>1 channel can be configured for RS485 or RS232 communication. |

■ Analog type

| Model | X10-0402A | X10-2A2P | X10-4AD |
|---|---|---|---|
| Product image |  |  |  |
| Interface | 4 analog inputs, 2 analog outputs | 2 analog inputs, 2 RTD inputs | 4-way analog input compatible with analog current and voltage. |
| Parameter | Input: 0~10V, 0~20mA<br>Input Precision: 12-bit ±5%<br>Output: 0~10V, 0~20mA<br>Output Precision: 16-bit ±0.3% | Input: 0~10V, 0~20mA<br>Input Accuracy: 12-bit ±3%<br>RTD Type: Pt100, Pt500, Pt1000, Cu100, KTY84,NTC5K, NTC10K | Input: 0~10V, 0~20mA<br>Input precision: 16-bit ±0.3% |

| Model | X10-8AD | X10-4DA | X10-8DA |
|---|---|---|---|
| Product image |  |  |  |
| Interface | 8 analog inputs, compatible with analog current and voltage inputs. | 4-channel analog output compatible with analog current and voltage. | 8-channel analog output compatible with analog current and voltage. |
| Parameter | Input: 0~10V, 0~20mA<br>Input Precision: 16-bit ±5% | Input power supply: 24VDC (±20%) 30mA<br>Input/output characteristics: -10V~10V, 0~10V, -5~5V, 0~5V, 1~5V, 0~20mA, 4~20mA<br>Measurement accuracy: 25:<br>Full scale ±0.3%(-10V~10V full scale); -20~55: Full scale ±0.5% (-10V~10V full scale) | Input power supply: 24VDC (±20%) 30mA<br>Input/output characteristics: -10V~10V, 0~10V, -5~5V, 0~5V, 1~5V, 0~20mA, 4~20mA<br>Measurement accuracy: 25:<br>Full scale ±0.3%(-10V~10V full scale); -20~55: Full scale ±0.5% (-10V~10V full scale) |

■ Thermocouple, resistance thermometer type

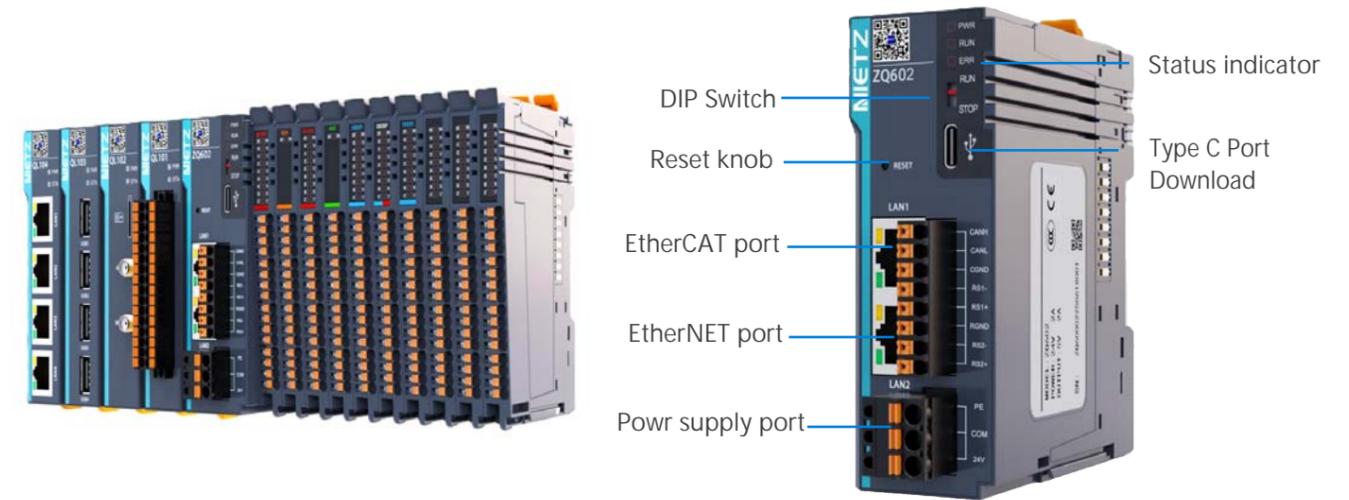| Model | X10-4TC | X10-8TC | X10-4PT |
|---|---|---|---|
| Product image |  |  |  |
| Interface | 4-way thermocouple data acquisition | 8-way thermocouple data acquisition | 4-way/3-wire RTD acquisition |
| Parameter | Thermocouple types: B,E,N,J,K,R,S,T | Thermocouple types: B,E,N,J,K,R,S,T | Resistance temperature detector (RTD) types: Pt100,Pt500, Pt1000, Cu100, KTY84, NTC5K, NTC10K |

■ Digital type

| Model | X10-0808T | X10-0008T | X10-0800T | X10-1600T |
|---|---|---|---|---|
| Product image |  |  |  |  |
| Interface | 8-channel DI and 8-channel DO, NPN type sinking output | 8-way transistor output, NPN type sinking output | 8-way transistor input, NPN/PNP compatible | 16 digital inputs, compatible with NPN/PNP |
| Parameter | Isolation method: Optocoupler isolation<br>Rated voltage: 24VDC+20%<br>Current Consumption: Maximum 0.3A per point | Isolation method: Optocoupler isolation/relay isolation<br>Rated voltage: 24VDC+20%<br>Current Consumption: Maximum 0.3A per point | Isolation method: Optocoupler isolation/relay isolation<br>Rated voltage: 24VDC+20%<br>Current Consumption: Maximum 0.3A per point | Isolation method: Optocoupler isolation/relay isolation<br>Rated voltage: 24VDC+20%<br>Current Consumption: Maximum 0.3A per point |

| Model | X10-0808R | X10-0008R | X10-0016N |
|---|---|---|---|
| Product image | | | |
| Interface | 8-channel DI and 8-channel relay output | 8-channel relay output | 16-channel digital output, NPN type |
| Parameter | Isolation method: Optocoupler isolation/relay isolation<br>Rated voltage: 24VDC+20%<br>Current Consumption: Maximum 5A per point | Rated voltage: 24VDC+20%<br>Current Consumption: Maximum 5A per point | Input power supply: 24VDC+20%<br>Output characteristics: 30mA single channel 500mA, suitable for resistive loads, inductive loads, and lamp loads. |

# How to Order

| Code | Model | Destription |
|---|---|---|
| 45.01.0001 | ZX301-0808F | Supports 8-channel DI, 8-channel DO (4 high-speed inputs, 4 high-speed outputs), supports RS232 and RS485 communication, with expandable modules on the right-hand side. |
| 45.01.0011 | ZX301-0808T | Supports 8-channel DI, 8-channel DO (2 high-speed inputs, 2 high-speed outputs), supports RS232 and RS485 communication, with expandable modules on the right-hand side. |
| 45.01.0009 | ZX301-0806R | Supports 8 digital inputs, 6 relays (including 2 high-speed inputs), with RS232 and RS485 communication capabilities. Right-hand side accommodates expandable modules. |
| 45.01.0022 | ZX305-0808F | Supports 8 inputs and 8 outputs (2-channel AB/3-channel single-ended inputs, 5 high-speed outputs), supports RS232 and RS485 communication, with expandable modules on the right-hand side. |
| 45.01.0023 | ZX351 | Supports 8 inputs and 8 outputs (transistor), comprising 2-channel AB-follower/3-channel single-ended inputs and 5 high-speed outputs. |
| 45.01.0002 | E10-0808T | 8-channel digital input, 8-channel digital output/NPN sink type |
| 45.01.0003 | E10-0808R | 8-channel digital input, 8-channel relay output |
| 45.01.0024 | E15-USB | Compatible with the ZX305 module, supporting USB flash drive programme downloads and firmware updates. |
| 45.01.0025 | E15-0808U | Compatible with ZX305 module, E-expansion 8-input 8-output transistor NPN open-drain type, supporting USB flash drive programme download and firmware updates. |
| 45.01.0026 | E15-2SCOM | Compatible with ZX305 module, 2-channel serial communication expansion module |
| 45.01.0007 | X10-0808T | 8-channel DI, 8-channel DO/NPN-type drain-type output |
| 45.01.0016 | X10-0008T | 8-channel transistor output |
| 45.01.0017 | X10-0800T | 8-channel transistor input |
| 45.01.0018 | X10-1600T | 16-channel digital input, compatible with NPN/PNP |
| 45.01.0004 | X10-0808R | 8-channel digital input, 8-channel relay output |
| 45.01.0015 | X10-0008R | 8-channel relay output |
| 45.01.0019 | X10-0016N | 16-channel digital output, NPN type |
| 45.01.0005 | X10-0402A | 4 analogue inputs, 2 analogue outputs |
| 45.01.0020 | X10-2A2P | 2 analogue inputs, 2 thermoresistor inputs |
| 45.01.0014 | X10-4AD | 4-channel analogue inputs compatible with analogue current and voltage signals |
| 45.01.0021 | X10-8AD | 8-channel analogue input, compatible with analogue current and voltage signals |
| 45.01.0028 | X10-4DA | 4-channel analogue output, compatible with analogue current and voltage signals |
| 45.01.0027 | X10-8DA | 8-channel analogue output, compatible with analogue current and voltage signals |
| 45.01.0006 | X10-4PT | 4-channel thermoresistor input, 2-wire/3-wire |
| 45.01.0012 | X10-4TC | 4-channel thermocouple input/2-wire |
| 45.01.0013 | X10-8TC | 8-channel thermocouple acquisition |

# ZQ600 Series PLC



DIP Switch
Reset knob
EtherCAT port
EtherNET port
Powr supply port
Status indicator
Type C Port Download

| Model | | ZQ601 | ZQ602 |
|---|---|---|---|
| Input Power | | DC24V±10%, maximum 4A, typical 2.4A, supports short circuit/reverse connection protection, no external UPS required | |
| Memory | | 4G | |
| Data/storage capacity | | 128M program capacity, 128M data capacity (1M power-off retention space + 64K M device power-off retention) | |
| Communication specifications | EtehrCAT | 1 channel, support expansion | |
| | Modbus RTU | 2 channels | |
| | CAN communication | The main unit has 1 CAN channel (maximum 8 slaves), supporting CANopen and CAN free protocols | |
| | USB communication | Support | |
| EtherCAT Communication | EtherCAT Axes | 16+16 | 32+32 |
| | EtherCAT slaves | Support up to 256 | |
| | Communication cycle | 2ms 4-axis synchronization | 1ms 4-axis synchronization |
| ProfiNET Communication | | Support ProfiNET master-slave | |
| Scalability | Right expansino | The main unit supports 32 QY20 series blade modules | |
| | Left expansion | EtherCAT redundancy, EtherCAT splitter, 4-way routing, high-speed pulse, 4G/5G, remote debugging and monitoring, MQTT cloud, EtherCAT slave and other functions (under development) | |
| RUN/STOP | | Can realize PLC stop/run | |
| RESET | Factory Reset | Clear the user program and restore the initial IP address | |
| Programmin language | | IEC61131-3 | |

# Products Feature

ZQ600 series is a high-performance, mid-range PLC from NIETZ Technology. Designed and developed in full compliance with PLC open specifications and IEC 61131-3, it supports programming languages such as ST, LD, SFC, and CFC. It boasts powerful CPU performance, stable and reliable software and hardware system design, extensive expansion capabilities, a compact size, and modularity. It is primarily used in motion control scenarios and complex production line networking, and is particularly well-suited for multi-channel servo control and multi-bus protocol integration.

## Advantage

### Powerful software and hardware configuration

- Dual-core processor, 1.4GHz main frequency, nanosecond instruction processing speed
- 128M Byte program capacity, 128M Byte data capacity (1M Byte supports power-off retention variables and 64K M device memory), data preservation during power outages without the need for an external UPS module
- The main unit can be expanded to 32 QY20 series IO modules, supporting DI, DO, AD, DA, PT, TC, PO, HC, and other modules

### Rich communication interfaces

- Supports two Ethernet ports, LAN1 of which can be configured as an EtherCAT master or PROFINET master/slave. When used as EtherCAT, it supports up to 64-axis control and can connect 256 EtherCAT slaves. LAN1 and LAN2 each support 63 Modbus TCP slaves and 16 OPC UA sessions (clients).
- Supports 2-way RS485 communication (both master and slave modes), 1-way CAN communication, and supports 127 slaves when used as a CANopen master; supports CAN free protocol
- Supports USB download of monitoring programs and firmware upgrades.
- Using ladder diagrams, function blocks, and ST programming languages compliant with the IEC61131-3/ PLCopen standard effectively reduces project development time and improves project development efficiency.
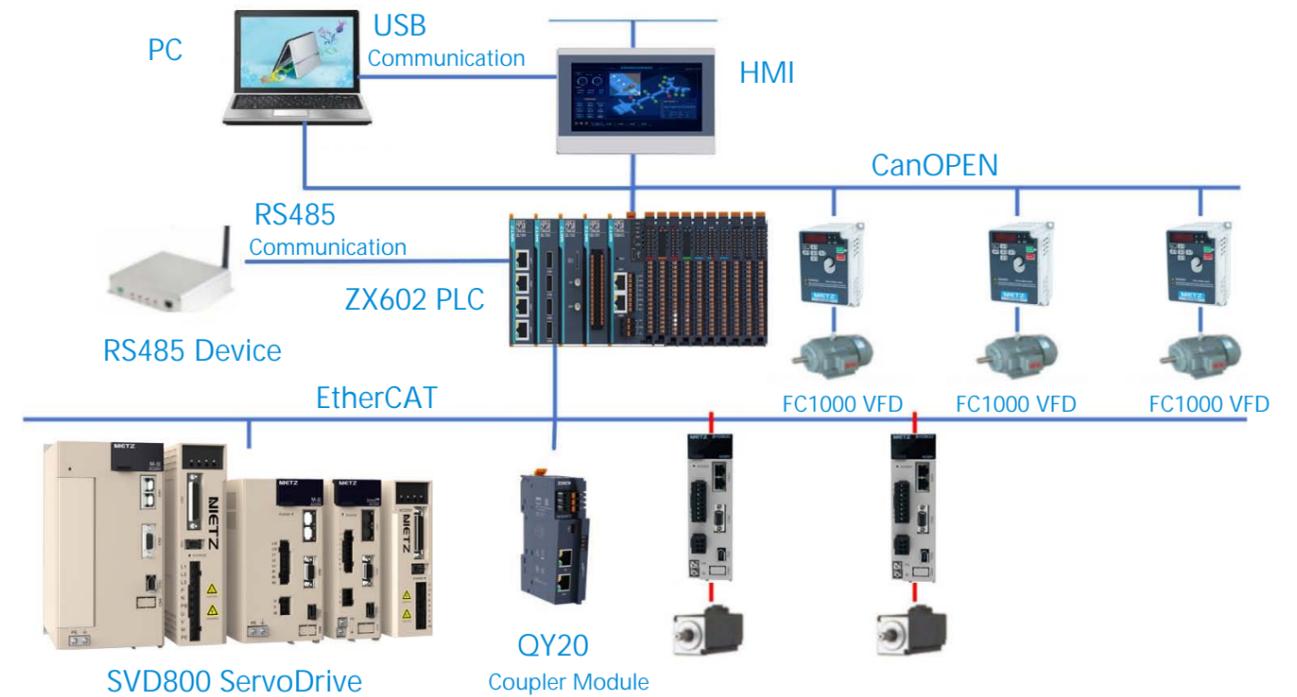
### Flexible and comprehensive performance

- 1ms cycle, 4-axis synchronous control, supports up to 64 axes.
- The entire series supports EtherCAT linear, star, and ring network topologies.Splitters can be integrated via expansion modules.

## PLC Code

ZQ   6   02

PLC Medium type

6: 600 series PLC

02: Dual Core CPU
01: Single Core CPU
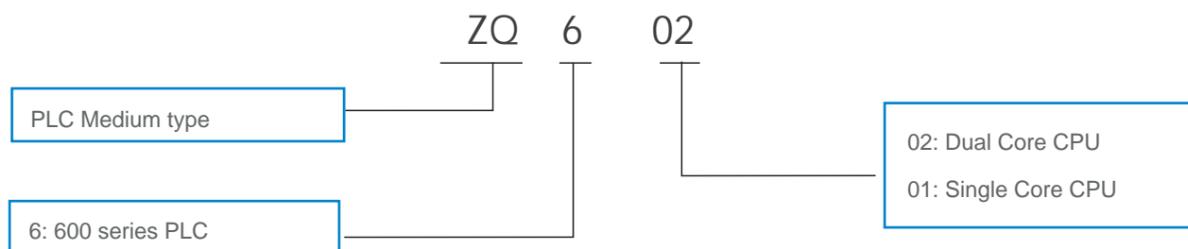
# ZQ600 Series PLC



The ZQ600 Series PLC supports multiple fieldbuses, enabling comprehensive expansion connectivity. Its conventional architecture diagram is shown below
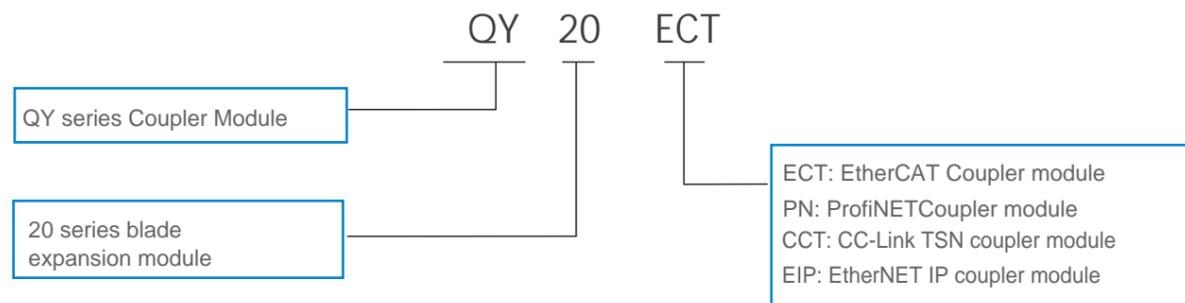


Use ladder diagrams, function blocks and ST language that comply with IEC61131-3/PLC open standards to effectively reduce project development time and improve project development efficiency.

# QY20 Series Coupler



Power interface

Type C
Signal indicator light
Bus input interface

Bus output interface

| Model | QY20-ECT | QY20-PN | QY20-CCT | QY20-EIP |
|---|---|---|---|---|
| Product image | | | | |
| Protacol | EtherCAT | ProfiNET | CC-Link IE TSN | EtherNET IP |
| Supported IO number | 32 | | | |
| Input Power | 24VDC(±20%)0.5A | | | |
| Output | 5V  2A | | | |
| Works Temp. | -20 ℃~ 55 ℃ | | | |
| Ptotective class | IP20 | | | |

## QY20 Series Coupler

QY    20    ECT

QY series Coupler Module

20 series blade
expansion module

ECT: EtherCAT Coupler module
PN: ProfiNETCoupler module
CCT: CC-Link TSN coupler module
EIP: EtherNET IP coupler module

# QY20 Series Coupler

The QY20 series plug-in IO modules consist of a coupler module, an IO function module, a relay power supply module, and a cover. The IO function modules are further divided into various types and numbers of function modules, including digital, analog, pulse output, encoder, and temperature. Customers can match them according to on-site requirements. They support mainstream communication protocols such as EtherCAT, PROFINET, CC-Link IE TSN, and are widely applicable to various bus applications.

## Advantage

### Thin and light insert

- The plug-in modular design allows the coupler to be as thin as 24mm and a single module to be as thin as 12mm.

### Rich types

- IO expansion modules with various types and points, including digital, analog, pulse output, encoder, and temperature

### Easy to install

- Snap-on rail design allows for easy assembly and disassembly, simplifying maintenance.
- Screwless terminal blocks reduce wiring time and improve installation efficiency. Each coupler supports up to 32 IO modules.
- The three-stage design and removable terminals allow for quick replacement without reinstalling cables, simplifying future maintenance.
- One-click firmware upgrades for the coupler and modules are available via USB-C.

### High speed response

- Transmission speeds can reach 100Mbps (full-duplex), with a communication cycle as short as 500us.High-precision distributed clock, precise synchronization (jitter＜1 us) high-speed backplane bus ensures rapid response.

### Various protections

- The power input (coupler, relay power module, etc.) has reverse polarity protection, and the digital output (transistor type) and analog output (voltage, current) have short-circuit protection.

### Mainstream protocols

- Supports a variety of mainstream bus communication protocols, easily connecting to fieldbuses such as EtherCAT, PROFINET, CC-Link IE TSN, and EtherNET/IP.

# QY20 Series IO Module

Lock

Indicator

Color mark

User terminal

Connector
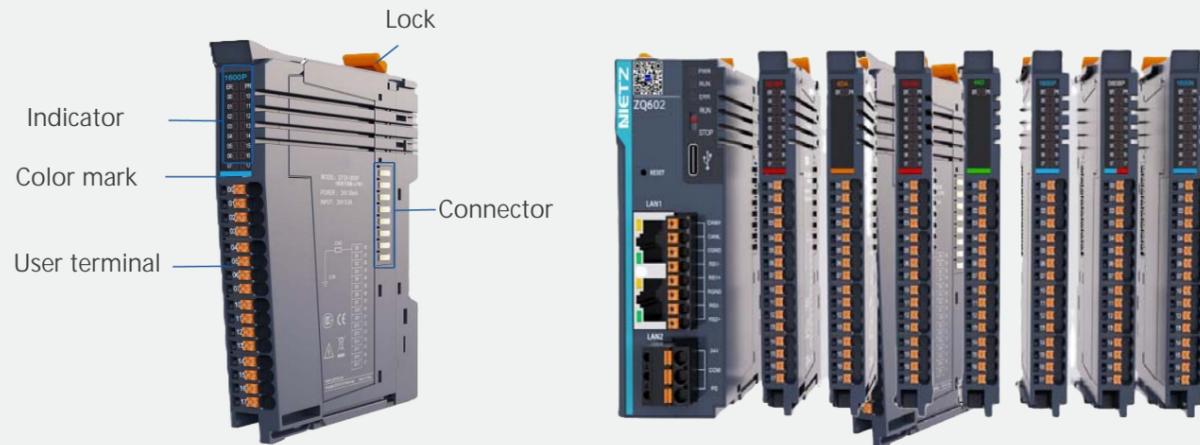
The QY20 series IO expansion modules adopt a plug-in structure and realize IO expansion of protocols such as EtherCAT, PROFINET, EtherNET/IP, CC-Link IE TSN through a high-speed backplane bus. Or they can be directly extended to the right side of the ZQ600 series PLC to realize PLC expansion. They include various types of modules such as digital, analog, pulse output, encoder, and temperature.

## Advantage

### Rich types

- The expansion IO modules offer a wide range of functions, including digital, analog, pulse output, encoder, and temperature control. Each module can be easily identified by its color, allowing for flexible combination and expansion, allowing for diverse applications.
- Supports error diagnosis, with error indicators on each module. Each module also supports fault alarm function, making detection and maintenance simple and convenient.
- Snap-on guide rail structure, easy to disassemble and assemble, easy to maintain

### Easy to install

- Screwless terminal blocks reduce wiring time and improve installation efficiency. Each coupler supports up to 32 IO modules.
- The three-stage structural design and removable terminals allow for quick replacement without reinstalling cables, making future maintenance easier.
- One-click upgrade of coupler and module firmware via Type-C connection

### High speed response

- High-speed backplane bus, fast response

# How to Order

| Code | Model | Destription |
|---|---|---|
| 45.02.0006 | QY20-0016P | 16 ways digital output module, PNP |
| 45.02.0004 | QY20-0016N | 16 ways digital output module, NPN |
| 45.02.0003 | QY20-1600P | 16 ways digital input module, PNP |
| 45.02.0005 | QY20-1600N | 16 ways digital input module, NPN |
| 45.02.0013 | QY20-0808P | 8 ways digital input+8 ways digital output, PNP |
| 45.02.0019 | QY20-0808N | 8 ways digital input+8 ways digital output, NPN |
| 45.02.0008 | QY20-4AD | 4 ways analog input module, 10V/0~10V/ 5V/0~5V/1~5V/0~20mA/4~20mA |
| 45.02.0009 | QY20-4DA | 4 ways analog output module, 10V/0~10V/ 5V/0~5V/1~5V/0~20mA/4~20mA |
| 45.02.0014 | QY20-8AI | 8 ways analog input module high precission current type, 0~20mA/4~20mA |
| 45.02.0011 | QY20-8AV | 8 ways analog input module high precission voltage type, 10V/0~10V/ 5V/0~5V/1~5V |
| 45.02.0012 | QY20-8AI-L | 8 ways analog input module low precission current type, 0~20mA/4~20mA |
| 45.02.0021 | QY20-8AV-L | 8 ways analog input module high precission voltage type, 0~10V/0~5V/1~5V |
| 45.02.0015 | QY20-4PT | 4 ways thermal resistor temp. detect modulePT100,PT500,PT1000,CU100,KTYB4,NTC5K,NTC10K |
| 45.02.0016 | QY20-4TC | 4-way thermocouple temperature detection module, B, E, N, J, K, R, S, T |
| 45.02.0017 | QY20-2HC | 2-channel encoder high-speed counting module, 5V differential or 24V single-ended |
| 45.02.0018 | QY20-4PO | 4-channel pulse output module, 24V NPN type |
| 45.02.0022 | QY20-PS | Relay power module, 5V 2A |

■ Digital output modules

| Model | QY20-0016P | QY20-0016N |
|---|---|---|
| Productimage |  |  |
| Interface | 16 ways PNP digital output | 16 ways NPN digital output |
| Input power | 24V DC (±20%) 30mA ||
| Output characteristics | Single channel 500mA, resistive load, inductive load, lamp load ||
| Operating temperature | -10　~55 ||
| Protection level | IP20 ||

■ Digital input modules

| Model | QY20-1600P | QY20-1600N |
|---|---|---|
| Product image |  |  |
| Interface | 16 ways PNP digital input | 16 ways NPN digital input |
| Input power | 24V DC (±20%) 30mA ||
| Output characteristics | 24V 500mA<br>Input ON logic: 15V~26V<br>Input OFF logic: 0V~4V ||
| Operating temperature | -10　~55 ||
| Protection level | IP20 ||

# QY20 IO Module

■ Analog input and output modules

| Model | QY20-4AD | QY20-4DA |
|---|---|---|
| Product　image |  |  |
| Interface | 4 ways analog input | 4 ways analog output |
| Input power | 24V DC (±20%) 30mA | |
| Output characteristics | -10V~10V,0~10V,-5~5V,0~5V,1~5V,O~20mA,4~20mA | |
| Measurement accuracy | 25　:Full scale × ±0.3% (-10V~10V full scale)<br>-20~55　: full scale × ±0.5% (-10V~10V full scale) | |
| Operating temperature | -10　~55 | |
| Protection level | IP20 | |

■ Digital input & output module

| Model | QY20-0808P | QY20-0808N |
|---|---|---|
| Product　image |  |  |
| Interface | 8-channel PNP digital input<br>8-channel PNP digital output | 8-channel NPN digital input<br>8-channel NPN digital output |
| Input power | 24V DC (±20%) 30mA | |
| Input characteristics | 24V 500mA<br>Input ON logic: 15V~26V<br>Input OFF logic: 0V~4V | |
| Output characteristics | Single channel 500mA, resistive load, inductive load, lamp load | |
| Operating temperature | -10　~55 | |
| Protection level | IP20 | |

# QY20 IO Module

■ Temperature detect module

| Model | QY20-4PT | QY20-4TC |
|---|---|---|
| Product　image |  |  |
| Interface | 4 ways thermal resistor detect module | 4 ways thermocouple detect module |
| Input power | 24V DC (±20%) 30mA | |
| Input characteristics | Pt100, Pt500, Pt1000, Cu100, KTY84-130 NTC5K, NTC10K | Thermocouple: B, E, N, J, K, R, S, T |
| Operating temperature | -10　~55 | |
| Protection level | IP20 | |

■ Multi-way analog input module

| Model | QY20-8AI | QY20-8AIL-L | QY20-8AV | QY20-8AV-L |
|---|---|---|---|---|
| Product　image |  |  |  |  |
| Interface | 8-channel current input(16bit) | 8-channel current input(12bit) | 8-channel voltge input(16bit) | 8-channel voltage input(12bit) |
| Input power | 24V DC (±20%) 30mA | | | |
| Input　characteristics | 0~20mA,4~20mA | | -10~10V,0~10V,-5~5V, 0~5V,1~5V | 0V~10V,0~5V,1~5V |
| Operating temperature | -10　~55 | | | |
| Protection level | IP20 | | | |

■ Other function module

| Model | QY20-4HC | QY20-4PO | QY20-PS |
|---|---|---|---|
| Product　image |  |  |  |
| Interface | 2 ways encoder module | 4 ways pulse output module | Power module |
| Input power | 24V DC (±20%) 30mA | | |
| Input characteristics | 2-way 5V differential or 24V single-ended input, each supporting 2-way probe or DI (used when 5V differential), 1-way comparison output or DO | 4 channels of pulse output supports positioning & velocity motion modes | 24VDC(±20%)500mA,5V 2A |
| Operating temperature | -10　~55 | | |
| Protection level | IP20 | | |