# VEICHI

# VC Series PLC



# VEICHI

## Suzhou Veichi Electric Co., Ltd

Wechat Official Account

Veichi Electric is a national high-tech enterprise with the ability of R&D, manufacturing and selling of industrial automation products. Since establishment, Veichi Elecric always focused on the field of electric drive and industrial control, and has won many titles as Jiangsu Provincial Enterprise Technology Center, Jiangsu Province Private Technology Enterprise, "Competitive Brand in Motion Control" and son on. The company has two R&D and production bases in Shenzhen & Suzhou, and has established a wholly-owned subsidiary in India. Now Veichi business have covered many countries and regions, providing competitive, safe and reliable products and services worldwide.
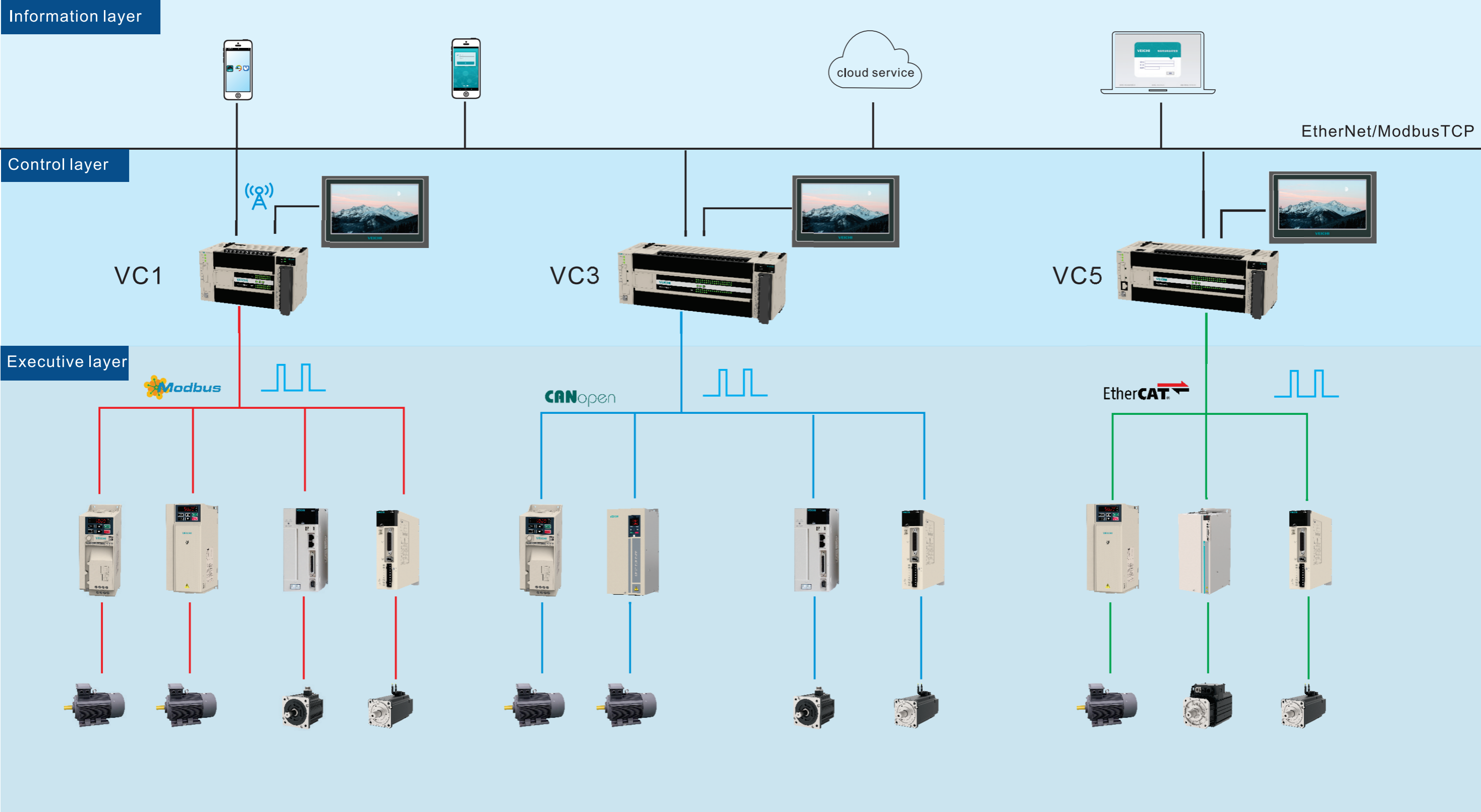
After years of self-dependent research and innovation, Veichi Electric has developed a series of independent intellectual property rights. Up to December 31, 2019, the company has obtained 91 authorized patents and 15 patents of that are invention patents. There are 29 patents more in the application process and 19 patents of that are invention patents. Moreover, 54 software copyrights have obtained.

Veichi Electric provides a wide range of products, including inverters from 0.4kW to 1,200kW, servo systems from 50W to 55kW, motion controllers, PLC and HMI, etc to customer in lifting and mining facilities, rail transportation, machine tools, compressors, plastics, solar pumping, building materials, robots or manipulator, printing and packaging, textile and chemical fiber, metallurgy, municipal administration, petroleum, chemical and other industries.

In the next 10 years, Veichi Electric will continue to adhere to the business philosophy of "oriented by market demand, driven by technological innovation", and strengthen the core business of inverters, servo systems and motion controllers, and intelligent IOT systems. We always stick to provide customers with excellent products and services,and spare no efforts to promote the development of electrical transmission and industrial control field.

VEICHI 苏州伟创电气科技股份有限公司
SUZHOU VEICHI ELECTRIC CO.,LTD.

# Veichi industrial automatic control system solutions

**Information layer**

cloud service

EtherNet/ModbusTCP

**Control layer**

VC1

VC3

VC5

**Executive layer**

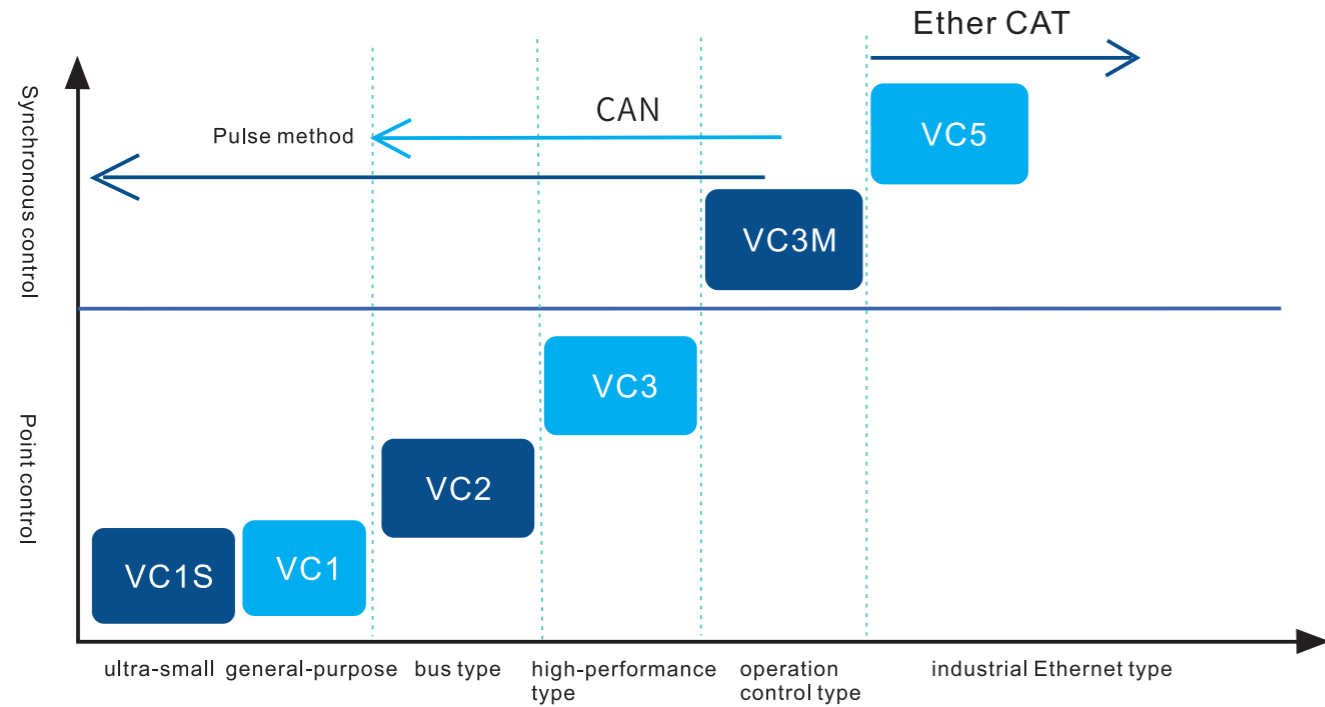Modbus

CANopen

EtherCAT

## PLC series product planning

PLC is divided into several series of ultra-small, general-purpose, bus type, high-performance type, operation control type and industrial Ethernet type.

Among them, VC1 and VC1S are aimed at higher cost-effective applications of logic control below three pulses.

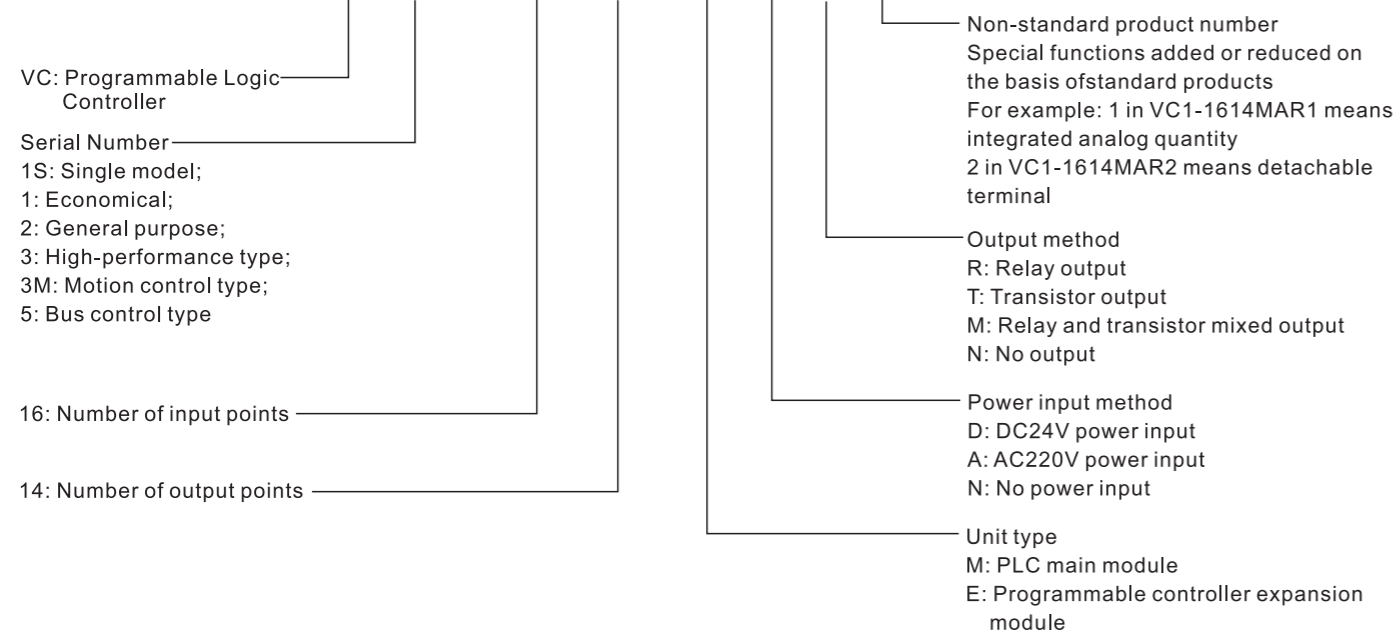The VC2 series is aimed at applications based on CANOpen bus type control.

VC3 is aimed at the application of multi-channel pulse control. VC3M is aimed at pulse-based motion control.

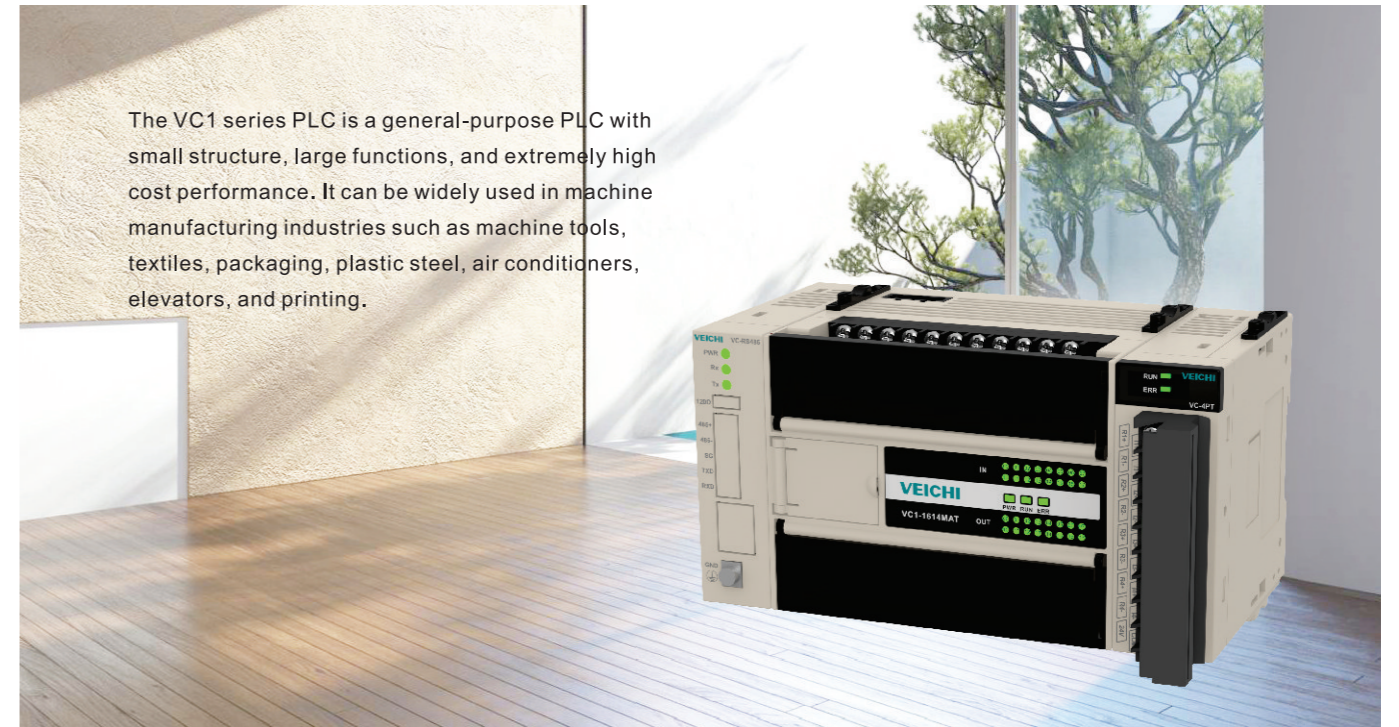VC5 is aimed at industrial Ethernet applications based on EtherCAT.



## VC series main module naming rules

VC1 - 1614 M A T 1

**VC: Programmable Logic Controller**

**Serial Number**
1S: Single model;
1: Economical;
2: General purpose;
3: High-performance type;
3M: Motion control type;
5: Bus control type

**16: Number of input points**

**14: Number of output points**

**Unit type**
M: PLC main module
E: Programmable controller expansion module

**Power input method**
D: DC24V power input
A: AC220V power input
N: No power input

**Output method**
R: Relay output
T: Transistor output
M: Relay and transistor mixed output
N: No output

**Non-standard product number**
Special functions added or reduced on the basis ofstandard products
For example: 1 in VC1-1614MAR1 means integrated analog quantity
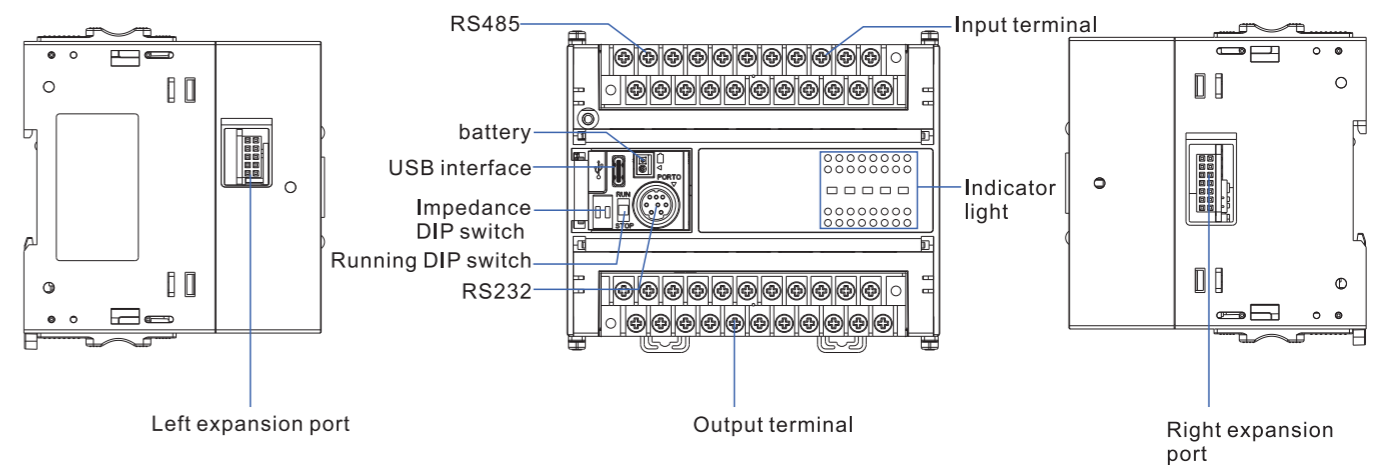2 in VC1-1614MAR2 means detachable terminal

## VC1 series product introduction

The VC1 series PLC is a general-purpose PLC with small structure, large functions, and extremely high cost performance. It can be widely used in machine manufacturing industries such as machine tools, textiles, packaging, plastic steel, air conditioners, elevators, and printing.



- User program supports up to 16k steps
- 3 channels 100kHz pulse output
- 2 channels of 50kHz high-speed counting, 6 channels of 10kHz high-speed counting
- 1 way 232, 1 way 485
- Can expand 1 way 485 through the left expansion module
- Support Ethernet through left expansion
- Support USB communication, make debugging more convenient and quick
- Rich expansion modules
- Convenient firmware upgrade

## VC1 series PLC port introduction



RS485
Input terminal
battery
USB interface
Impedance DIP switch
Running DIP switch
RS232
Indicator light
Left expansion port
Output terminal
Right expansion port

## VC1 series product specifications

| Index name | | Specification |
|---|---|---|
| Normal | basic command execution time | 0.2uS |
| | Real-time clock | ±45 seconds/month (normal temperature) |
| Memory | Program capacity | 16K steps |
| | The program is permanently saved after power off | Support |
| | Power-down save soft components | FLASH permanent storage, maximum 2000 word components |
| IO | Maximum IO points | 128 |
| | Maximum number of expansion modules | 15 |
| | Digital filter function | 8 input points software can set the filter time,later each point adopts hardware filter, the filter constant is 10ms |
| Positioning control | Maximum pulse output (transistor) | 3 channels 100kHz |
| | Single-phase counting channel | 2 channels with the highest input frequency of 50kHz, 6 channels with the highest input frequency of 10kHz |
| | Two-phase counting channel | 1 channel with the highest input frequency of 25kHz, 2 channels with the highest input frequency of 5kHz |
| Communication | Serial communication port | 1 way 232, 1 way 485 |
| | Ethernet | None |
| | USB communication | USB 2.0 |

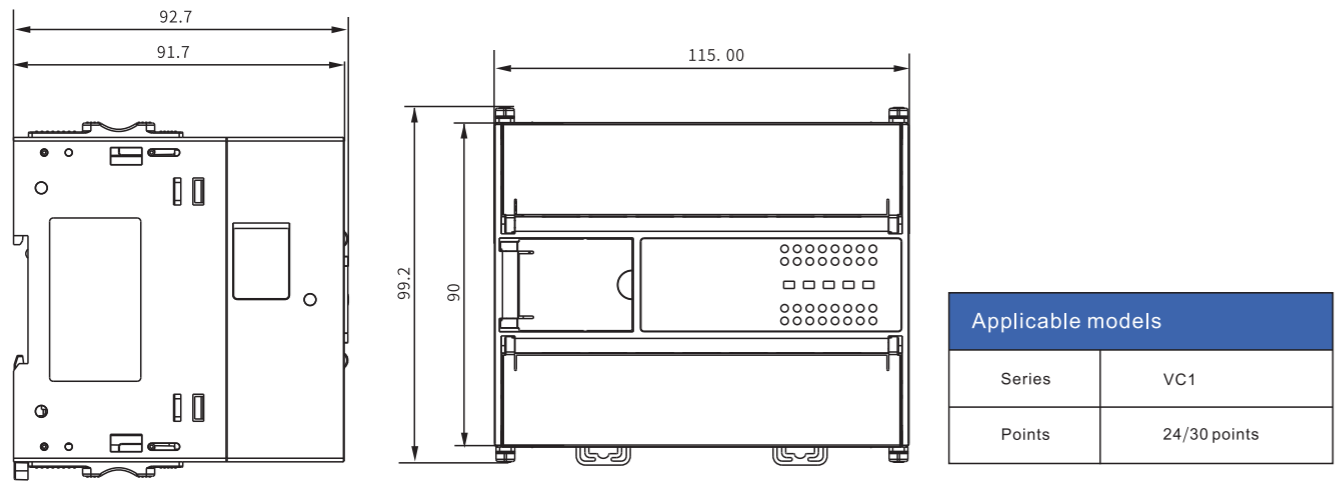| Product number | Description | Certification |
|---|---|---|
| VC1-1410MAR | Small PLC-VC1 series-14 points input 10 points relay output-VC1 general main module | CE |
| VC1-1410MAT | Small PLC-VC1 series-14 points input 10 points transistor output-VC1 general main module | CE |
| VC1-1614MAR | Small PLC-VC1 series-16 points input 14 points relay output-VC1 general main module | CE |
| VC1-1614MAT | Small PLC-VC1 series-16 points input 14 points transistor output-VC1 general main module | CE |
| VC1-2820MAR | Small PLC-VC1 series-28 points input 20 points relay output-VC1 general main module | CE |
| VC1-2820MAT | Small PLC-VC1 series-28 points input 20 points transistor output-VC1 general main module | CE |
| VC1-3624MAR | Small PLC-VC1 series-36 points input 24 points relay output-VC1 general main module | CE |
| VC1-3624MAT | Small PLC-VC1 series-36 points input 24 points transistor output-VC1 general main module | CE |
| VC1-1410MAR2 | Small PLC-VC1 series-14 points input and 10 points relay output-VC1 general main module / detachable terminal | CE |
| VC1-1410MAT2 | Small PLC-VC1 series-14 points input and 10 points transistor output-VC1 general main module / detachable terminal | CE |
| VC1-1614MAR2 | Small PLC-VC1 series-16 points input and 14 points relay output-VC1 general main module / detachable terminal | CE |
| VC1-1614MAT2 | Small PLC-VC1 series-16 points input and 14 points transistor output-VC1 general main module / detachable terminal | CE |
| VC1-2820MAR2 | Small PLC-VC1 series-28 points input and 20 points relay output-VC1 general main module / detachable terminal | CE |
| VC1-2820MAT2 | Small PLC-VC1 series-28 points input and 20 points transistor output-VC1 general main module / detachable terminal | CE |
| VC1-3624MAR2 | Small PLC-VC1 series-36 points input and 24 points relay output-VC1 general main module / detachable terminal | CE |
| VC1-3624MAT2 | Small PLC-VC1 series-36 points input and 24 points transistor output-VC1 general main module / detachable terminal | CE |

## Expansion modules and optional accessories

| IO expansion module | Description |
|---|---|
| VC-0808ENR | 8 points DC24V input, 8 points relay output |
| VC-0808ENT | 8 points DC24V input, 8 points transistor output |
| VC-1600ENN | 16 points DC24V input |
| VC-0016ENR | 16 points relay output |
| VC-0016ENT | 16-point transistor output |

| Left expansion module | Description |
|---|---|
| VC-RS485 | RS485 left extension module |
| VC-ENet | Ethernet Left Expansion Module |

| Optional accessories | Description |
|---|---|
| VC-SL1 | DB9 to DIN8 touch screen PLC serial port cable |
| VC-SL2 | USBA head to DIN8 serial communication line |
| VC-SL3 | USB-TypeA to USB-TypeC communication cable |

| Special module | Description |
|---|---|
| VC-4AD | 4 analog input module |
| VC-4DA | 4 analog output module |
| VC-4TC | 4 thermocouple temperature module |
| VC-4PT | 4 thermal resistance temperature |

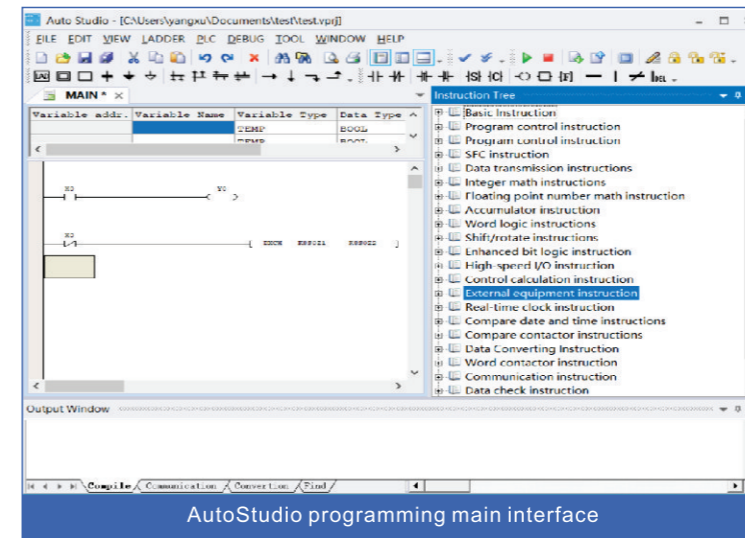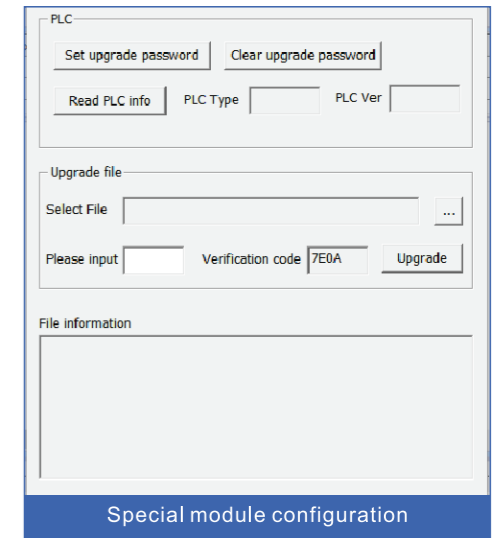| Applicable models | |
|---|---|
| Series | VC1 |
| Points | 24/30 points |

VC1 main module size drawing



Left expansion module size drawing
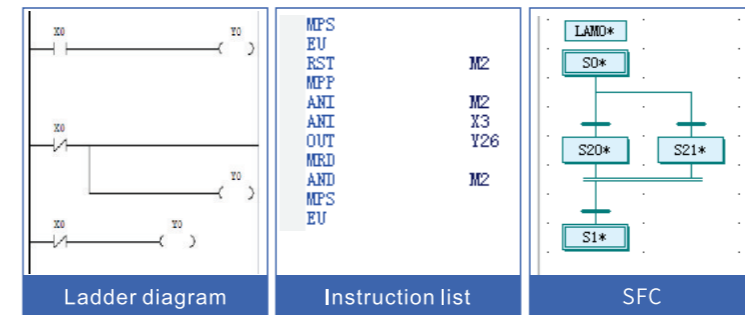
Dimension drawing of right expansion module

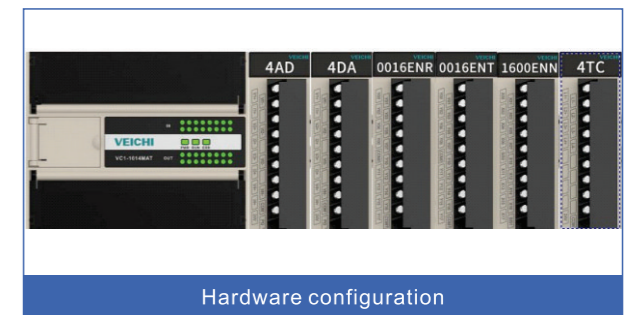AutoStudio programming main interface

Special module configuration

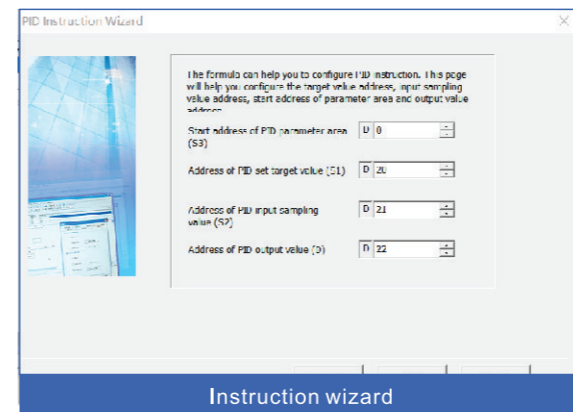Support multiple programming languages and their mutual conversion



Ladder diagram

Instruction list

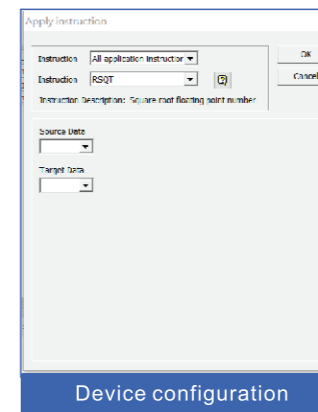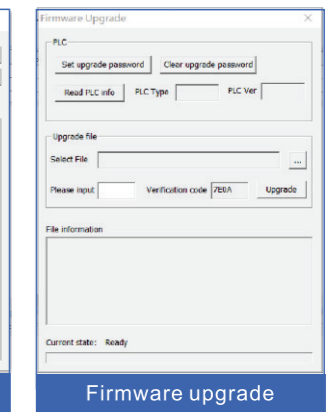SFC

Hardware configuration

Quickly set up complex command addresses,input and output parameters.
Automatically generate and execute subroutines to ensure the accuracy and accuracy of the procedures
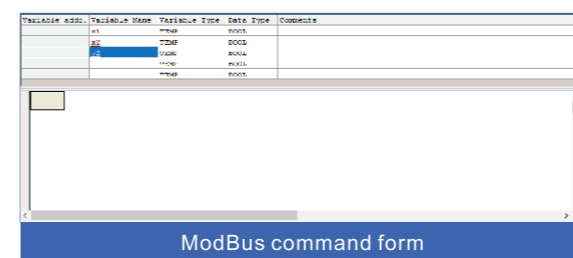


Instruction wizard

Device configuration

Firmware upgrade

ModBus command form