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威科达运动控制器 MOTION CONTROLLER





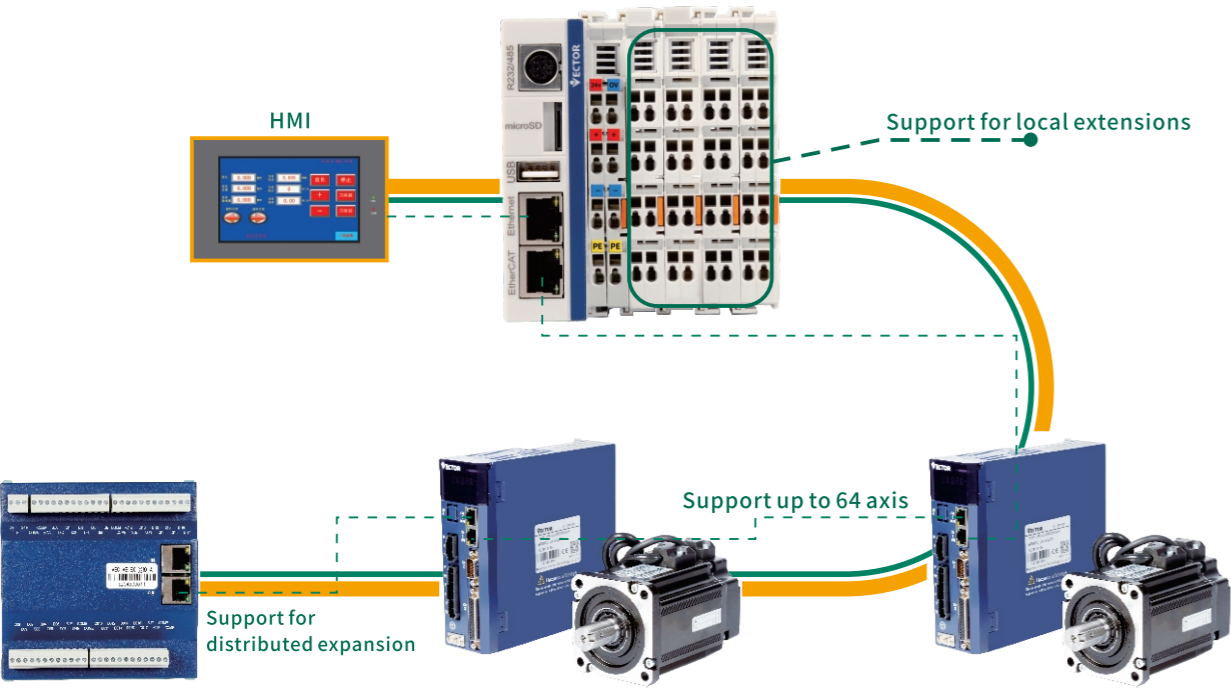
公司简介 COMPANY PROFILE

Founded in 2004

Vector focuses on industrial automation products with independent intellectual property rights, positioning itself to serve mid-to-high-end equipment manufacturers and provide total solutions for customers in niche markets. We are committed to becoming the world's leading provider of industrial automation control products and solutions. Our self-developed products include servo drives, motion controllers, human-machine interfaces, servo motors,

etc. We have a number of invention patents, utility model patents and software copyrights, and are a national high-tech enterprise. It has its own product development centre and production base, and has several offices and agents in China. Vector's core competitiveness is to achieve seamless cooperation between product development and product application, and to provide professional and efficient system solutions for equipment.

Ve运动控制器 VE MOTION CONTROLLER



产品介绍 >>

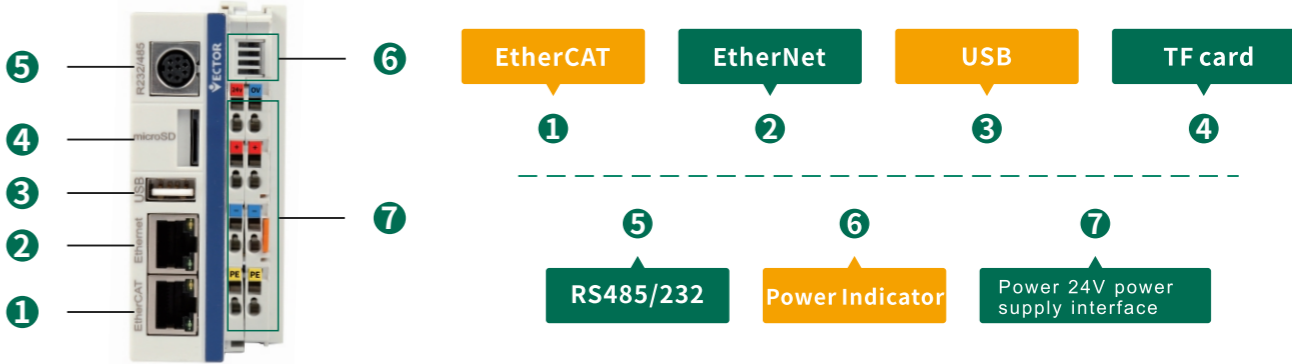
PRODUCT INTRODUCTION

Ve series motion controller belongs to the bus-type motion controller independently developed by Weikeda. With more than ten years of precipitation in the industrial control field, it has created a stable and reliable industrial brain. It is very suitable for controlling various automation equipment. VE series motion controller adopts CODESYS programming tool and supports 6 programming languages of IEC61131-3 international standard, Application

engineers are easy to get started. Based on EtherCAT bus, up to 64 motion control axes, one-stop solution, support local IO expansion, also support EtherCAT-based distributed IO, general Ethernet, serial ports; support real-time multi-task control, with advanced And easy-to-use simulation tools;At the same time, it integrates a wealth of motion control function blocks and a powerful CPU to maximize the beauty of motion control.

VEC-VE-MU-AN系列硬件端口介绍 >>

Introduction to hardware of vec-ve-mu-an series



VEC-VE-MU-AH系列硬件端口介绍 >>

Introduction to hardware of vec-ve-mu-ah series

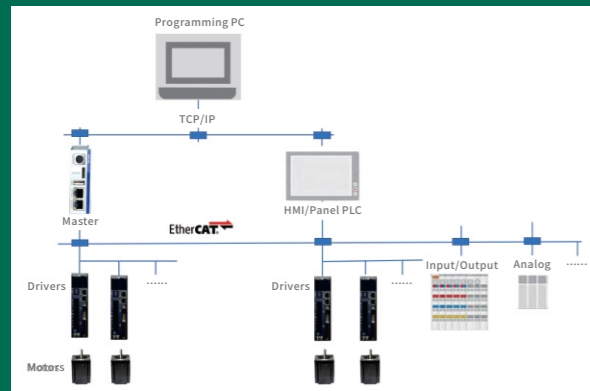


1 reset button	2 Ip setting button	3 24V power supply terminal	4 RS232/485	5 Tf card
6 USB	7 Ethernet	8 EtherCAT	9 touch screen	

软件功能介绍

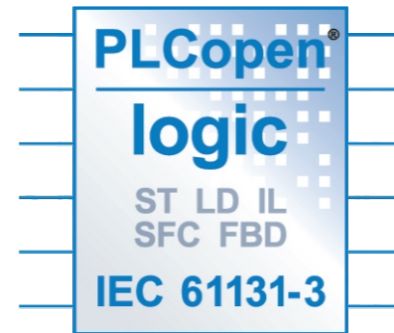
INTRODUCTION OF SOFTWARE FUNCTION

► 高速总线系统 HIGH SPEED BUS SYSTEM



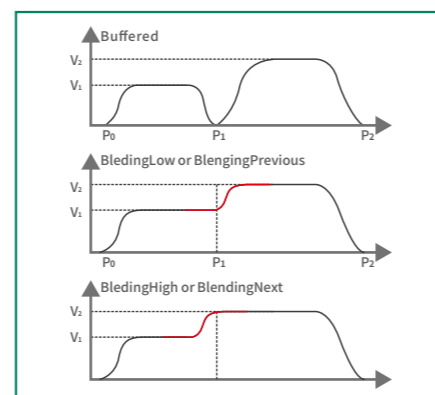
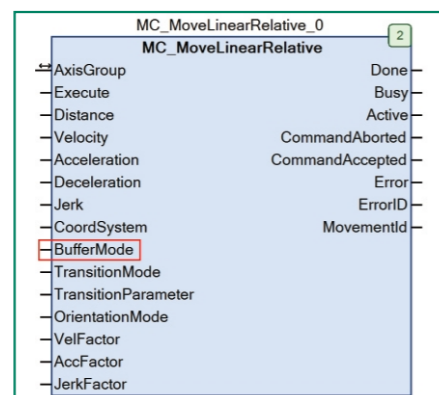
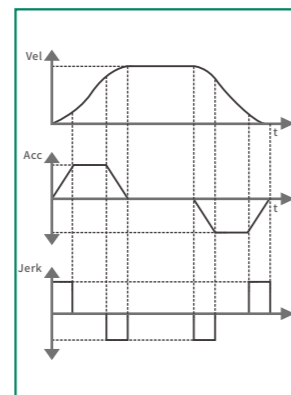
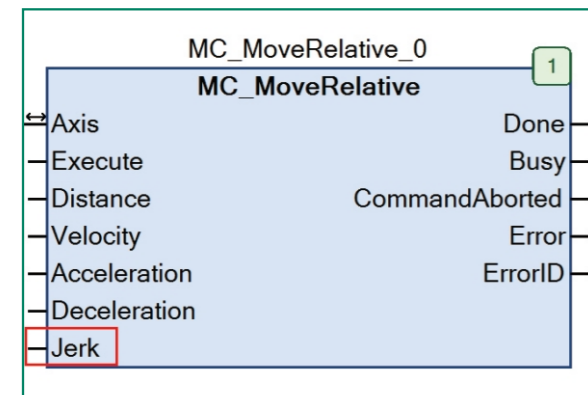
B₀₁ 64 servo axes can be connected, the real axis and the virtual axis can be combined and controlled at the same time, the bus communicates at a rate of 100Mbps, the distance between the two servo slaves can be up to 100M, and the full configuration of the digital IO of the entire extended system of the bus can reach 30,000 points

► 强大的运动控制 POWERFUL MOTION CONTROL

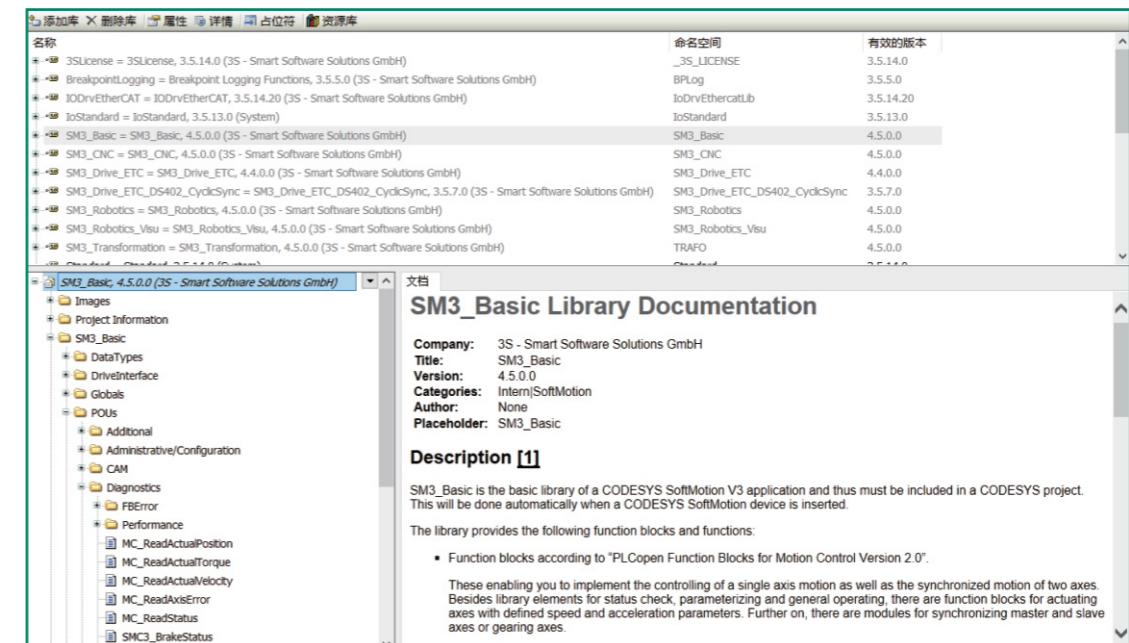


B₀₁ Motion control instructions Follow the international standard PLCopen2.0.

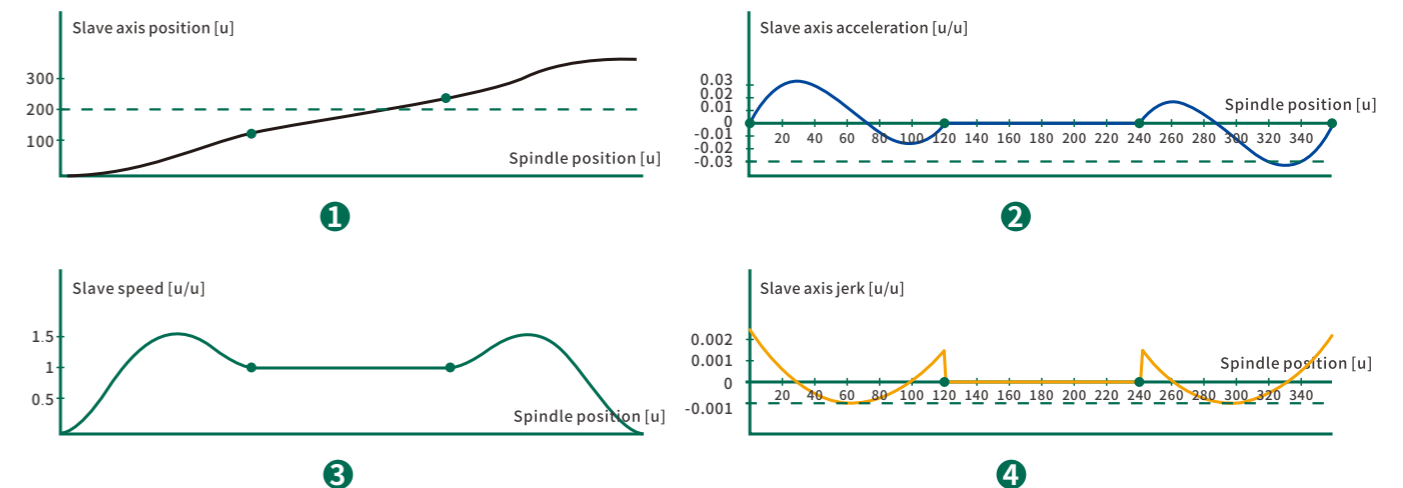
B₀₂ Support Jerk function, can set the rate of change of acceleration/deceleration;
Support command switching buffer BufferMode function, the motion curve is softer



B₀₃ In view of the lack of motion control functions specified by PLCopen2.0, more motion control functions have been expanded to cope with different applications



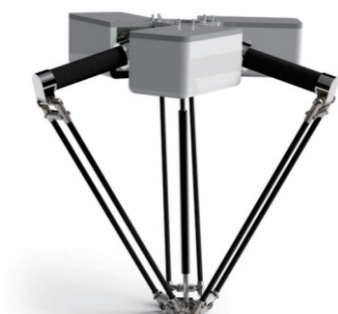
B₀₄ Graphical planning of cam functions by the cam editor of the host computer



► 工业机器人功能 FUNCTIONS OF INDUSTRIAL ROBOTS

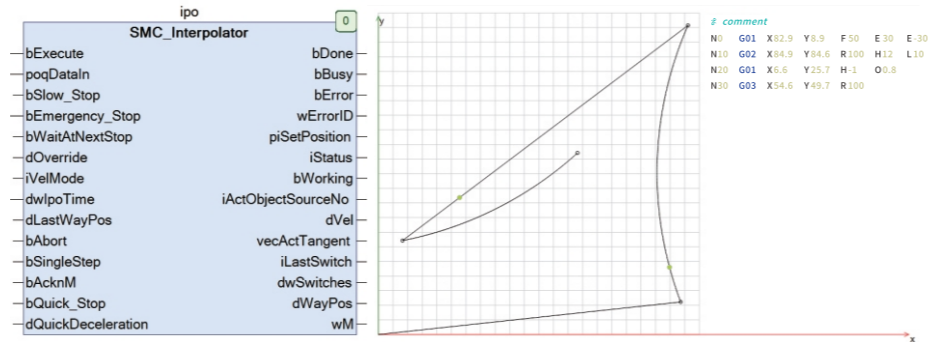
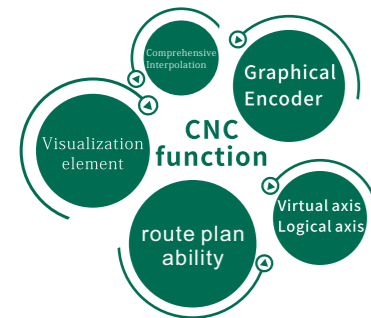


- delta robot
- scara robot
- Four-axis palletizing robot
- Six-axis universal robot
- Gantry robot



CNC功能

CNC FUNCTION

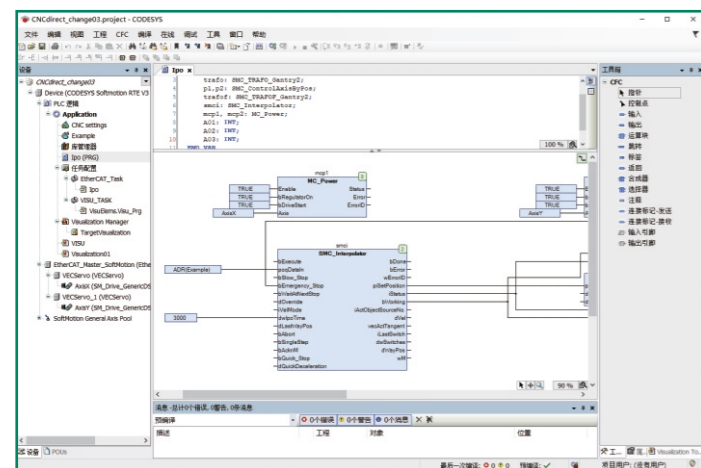


- Graphical DIN 66025 editor (support G code)
- Rich visualization elements for online display and planning of 3D paths
- Comprehensive interpolation function block from linear to spline interpolation
- Support virtual axis and logical axis
- Powerful path planning capabilities, including CNC tool radius compensation

编程语言

PROGRAMING LANGUAGE

Support IEC61131-3 programming languages-FBD, LD, IL, ST, SFC and CFC. The project structure is clear and the programming language is intuitive.



可视化功能

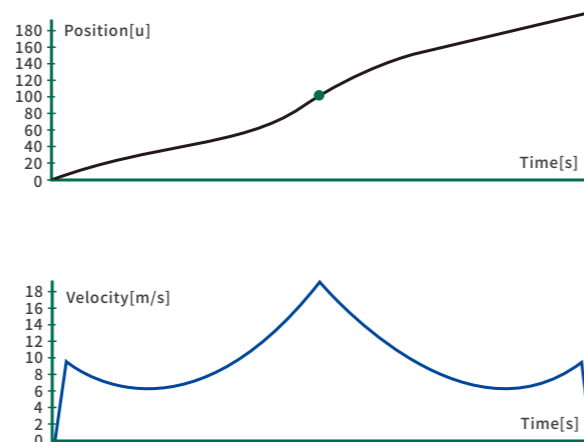
Visualization function

In addition to the above-mentioned functions, the VEC-VE-MU-AH series is also equipped with a visualization function for human-computer interaction. After editing the visualization (Visu) interface on CODESYS, you can realize the visualization of each variable through the visualization screen when the program is running. Write or read, check the status of function blocks, etc.; the real-time data transmission is stronger than the HMI of other manufacturers, the visual function and the program are more integrated, the function is more, and the interface design is more beautiful.

易用系统分析

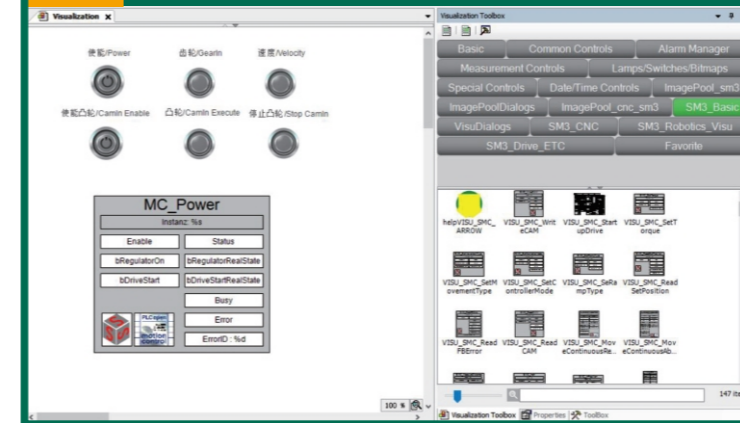
EASY-TO-USE SYSTEM ANALYSIS

The upper computer software has a logic analyzer function, which can monitor various internal motion control changes. It can be printed as a curve for easy analysis of system problems.



1 软件可视化编辑界面

SOFTWARE VISUAL EDITING INTERFACE



2 运行界面

OPERATION INTERFACE



丰富的扩展模块

RICH EXTENSION MODULES

EtherCAT bus coupler, digital input and output expansion module, analog input and output expansion module, thermocouple expansion module, encoder (with probe function, can send AB phase differential pulse) expansion module, hybrid expansion module.

产品型号

PRODUCT MODEL

- Mainframe VEC-VE-MU-AN series, 8/16/32/64 axes
- 4-channel voltage and current input module VEC-VE-EX-4AD
- Mainframe VEC-VE-MU-AH series, integrated controller with touch screen 8/16/32/64 axes
- 4-channel voltage and current output module VEC-VE-EX-4DA
- Coupler VEC-VE-CPR-P
- 4-channel thermocouple VEC-VE-EX-4PT
- 8-point NPN type DI (with 2 DI high-speed counters) VEC-VE-EX-8DI-NPN
- 1 encoder (absolute value incremental compatible, also pulse generation compatible) 2-way NPN type DI-probe VEC-VE-EX-EDR-2N
- 8-point PNP type DI (with 2 DI high-speed counters) VEC-VE-EX-8DI-PNP
- 1 encoder (absolute value incremental compatible, also pulse generation compatible) 2 PNP type DI probe VEC-VE-EX-EDR-2P
- 8-point NPN type DO VEC-VE-EX-8DO-NPN
- Hybrid integrated expansion [EtherCAT inlet and outlet, 32DI (with 2 high speed counters) 32DO, 4AI, 2AO, 2-way encoder (absolute incremental compatible, also pulse generation compatible) with probe function, NPN and PNP jumper selectable] VEC-VE-EX-ECAT-SUB
- 8-point PNP type DO VEC-VE-EX-8DO-PNP
- 32-point hybrid expansion (16DI, 16DO, NPN and PNP jumper selectable) VEC-VE-EX-32IO-A
- 16-point NPN type DI (with 2 DI high-speed counters) VEC-VE-EX-16DI-NPN
- 16-point PNP type DI (with 2 DI high-speed counters) VEC-VE-EX-16DI-PNP
- 16-point NPN type DO VEC-VE-EX-16DO-NPN
- 16-point PNP type DO VEC-VE-EX-16DO-PNP

产品介绍

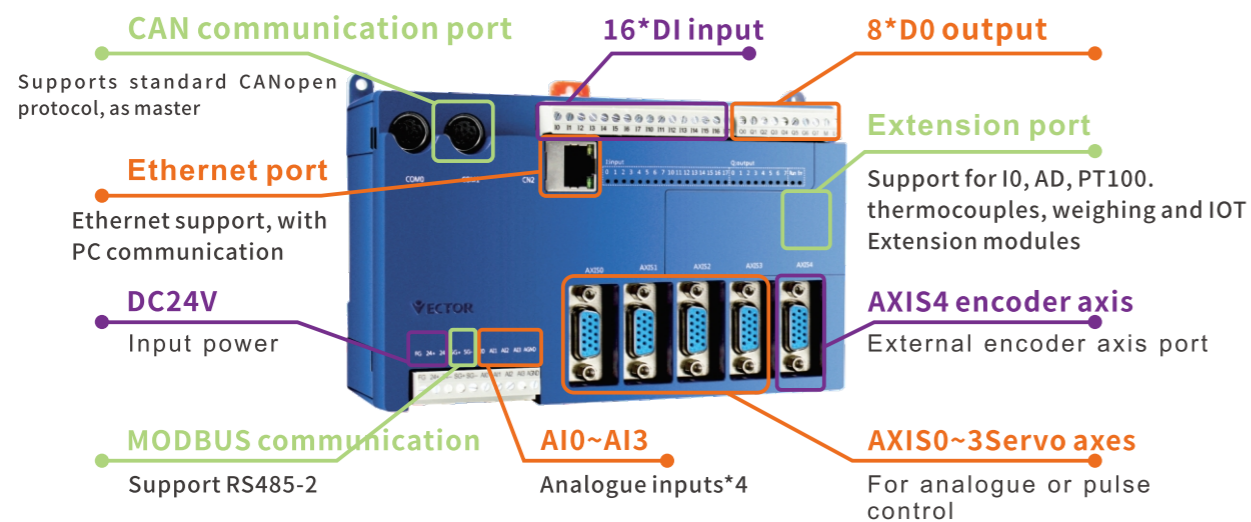
PRODUCT INTRODUCTION

The VA series motion controllers use the MULTIPROG programming tool and support the five programming languages of the IEC 61131-3 international standard, making it easy for application engineers to get started. The motion controllers support pulse, analogue and CANopen interfaces for motion control. 5 axes of VA series motion controllers are available with analogue closed-loop or pulse semi-closed-loop control, or up to 16 axes of motion control with CAN bus. Multi-tasking, with

advanced and easy-to-use simulation tools, integrated rich motion control function blocks (including industry-specific modules), easy parameter adjustment and smooth function connection, cam-like function position curves with 5th order polynomial S-curves; motion control cycles of less than 500 microseconds for 6 servo axes (including dummy axes). This product is the best of the non-bus type motion controller products.

硬件端口介绍

INTRODUCTION TO HARDWARE PORT



软件功能介绍

INTRODUCTION OF SOFTWARE FUNCTION

多种控制方式

VARIOUS CONTROL MODES

Analogue mode	Pulse mode	CANopen communication mode
Support: real axis (analogue)*4 + real axis (pulse)*1 + imaginary axis*12	Universal controller support: real axis*5 + imaginary axis*12 Economy controller supports: real axis (pulse)*8 + imaginary axis*8 (streamlined function)	Support: up to 16 axes, real or imaginary

性能

PERFORMANCE



- ARM's powerful computing power, FPGA's excellent real time Time-sensitive signal processing
- 6-Axis bottom-up operation cycle up to 500 microseconds

强大的运动控制功能

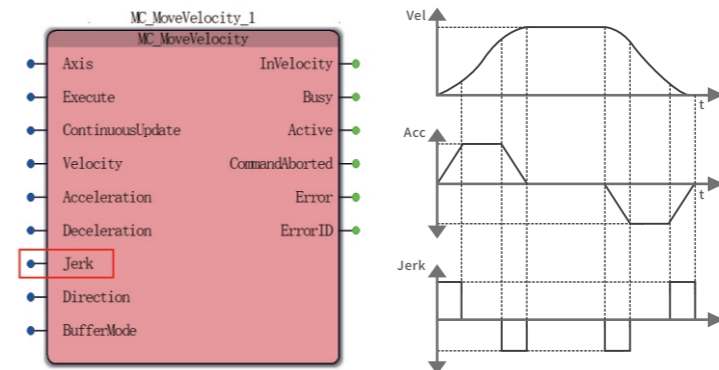
POWERFUL MOTION CONTROL FUNCTION

A₀₁ Motion commands follow the international standard PLCopen 2.0 and include CNC function commands

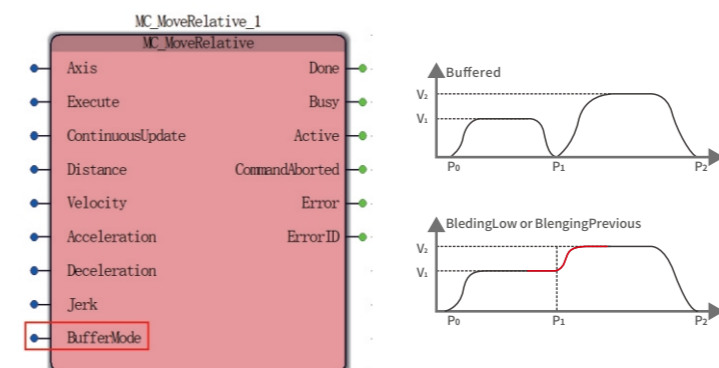
Functional instructions include:

Axis information and axis enable commands	Single axis motion commands	Master-slave following and electronic sub-cam function commands	Superimposed motion commands and CNC functions
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A₀₂ Support Jerk function, can set the rate of change of acceleration/deceleration; support command switching cache BufferMode function, the motion curve is more gentle



- ★ Jerk is the rate of change of acceleration against time. Adjusting the value of Jerk makes the speed change curve smoother and reduces mechanical shocks
- ★ $Acc(Dec)=dv/dt$
- ★ $Jerk=dAcc(Dec)/dt$



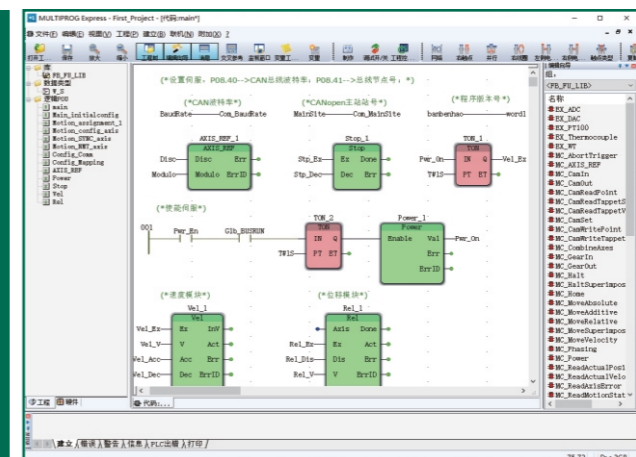
- ★ Command switching uses BufferMode function 0 and 1 mode.
- ★ When the latter motion control function module interrupts the previous one, the motion profile is smoother and the motion is softer.

A₀₃ Special motion control commands (special function modules for selected application sectors to optimise industry solutions)

编程语言

PROGRAMING LANGUAGE

MULTIPROG is a general purpose PLC programming system developed for medium to large control applications. It offers a rich set of commands and an excellent human-machine interface, supports drag-and-drop and full keyboard operation, provides variable online monitoring, force and override functions, allows breakpoints and single-step debugging of programs, and comes with a logic analyser for easy recording of input and output waveforms.



A₀₁ Clear engineering structure and intuitive programming language

A₀₂ Support for cross-compilation between FBD, LD and ILCross-compilation, support for hybrid programming

A₀₃ Support for IEC61131-3 programming language - FBD, LD, IL, ST and SFC