

ShenZhen Zmotion Technology Co.,Ltd.

PRODUCT CATALOG 2018

Motion Controller | I/O Expansion | HMI | Software

3-64 Axes Pulse Motion Controllers



3-64 Axes EtherCAT/Rtex Motion Controllers

EtherCAT. 

EtherCAT. 

EtherCAT. 

RTEX
Realtime Express



Company Introduction

ShenZhen Zmotion is a company dedicated to research of motion control technology and R&D Innovation, manufacturing and sales of motion control platform products. We have experts from some famous companies or institutions, such as Huawei and ZTE. Nowadays, Zmotion has already mastered the core technology of motion control and Real-time embedded platform technology based on BASIC language.

MORE FUNCTIONS

Our products have all kinds of motion control functions and strong extensibility: linear, circular, helical, spherical, elliptical and elliptical helical interpolation, velocity look-ahead, electronic cams, gearboxes, pitch compensation, synchronous tracking, motion-superposition, virtual axis, pulse close-loop, hardware position latch, Position comparison output, continuous interpolation, dwell motion etc. our products also support IO or axes expansion through bus protocol.

MORE QUALITY

All our products are in strict accordance with Huawei IPD-CMM software development process with stability equal to Telecom level; The controller supports secondary development through BASIC language or computer operating system or embedded platform; support for multi-files or multi-tasks running and self-defined instructions. we provide strong development environment Zdevelop, it supports PC simulated function and online trace debugging, it is also compatible with habit which is formed in VC, any complex motion requirement can be realized easily.

MORE SAFETY

We always insist to maintain the benefit of any customer through the technology service. our products are safer, because they can be encrypted by long string, the code is stored through non-invertible algorithm, at the same time the programme files can be transformed into encrypted library file; any controller has its unique identification code, the download programme can be binded to a individual controller or a series of controllers.

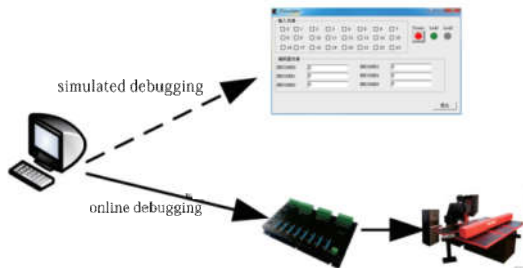
Our Quality Concept: Put Quality Before Business Benefit

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Motion Control Easy To Use

Either simulated or online debugging is as convenient as the VC



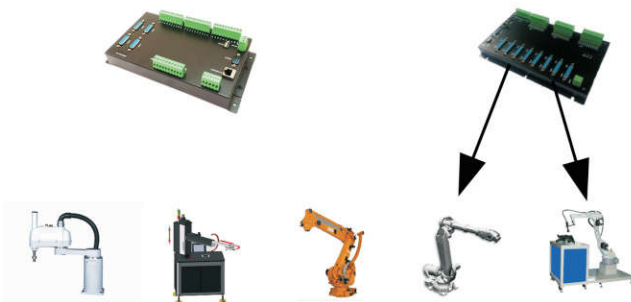
Online Control

The controller can be controlled by most of terminals with operating system or not.



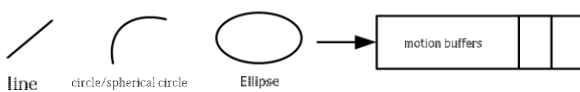
Robotic Arms

Supports kinds of robotic arms, a single controller can serve more than one robotic arm simultaneously. the special acceleration and deceleration control function enable the robotic arms with stepper motors to operate well.



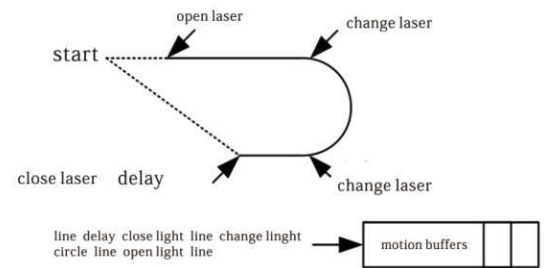
Interpolation And Continuous Interpolation

Supports various interpolation, mixed continuous interpolation is allowed.



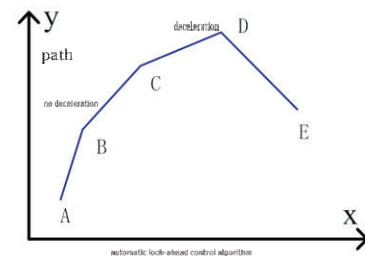
The Action Along With Movement

IO and other action can be processed as a motion, simple and efficient.



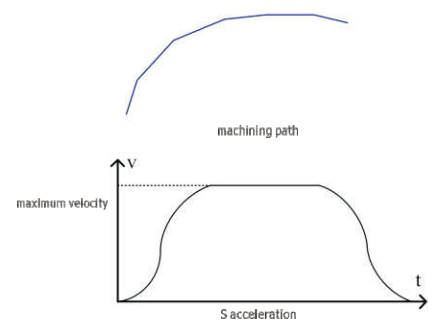
Automatic Look-ahead Control

The controller support automatic look-ahead control, it also can force the machine to move at a given speed flexibly when the machine get to a specific position. Supports interpolation with look-ahead control of multi-axes, additional axes can be ordered not to do speed or look-ahead movement.



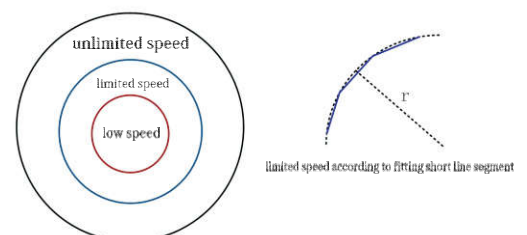
Acceleration or Deceleration Based On S-Curve

Accelerate and decelerate motion after the combine of small line segments. the additional axis can be appointed as Follow-up interpolation, making the total velocity control easier.



Speed Limit At Small Circle

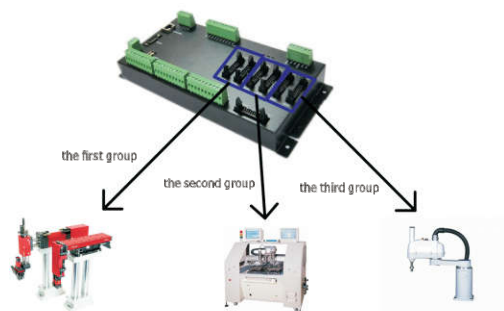
Different speed limit aimed at different circle path, the short segment will be fitted to arc automatically to limit the speed.



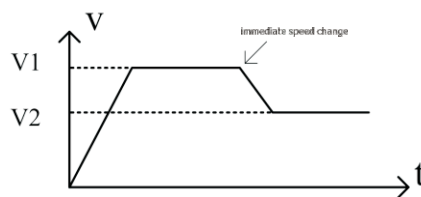
Features

Devices Multi-Control

The axes can be divided into different groups freely according to the amount of devices, each axis group will control a device without influence on each other.

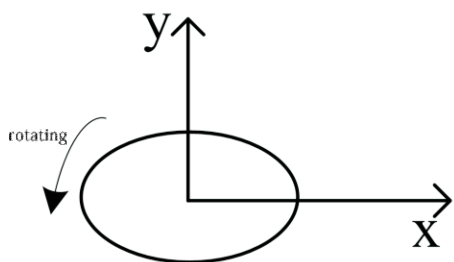


Dynamic Speed Change

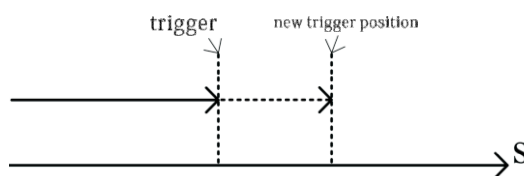


Rotating Stage Control

Linear or circular interpolation is available when the stage is rotating.

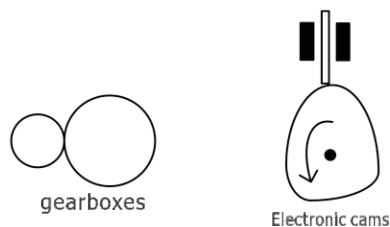


Change The Target Position Dynamically

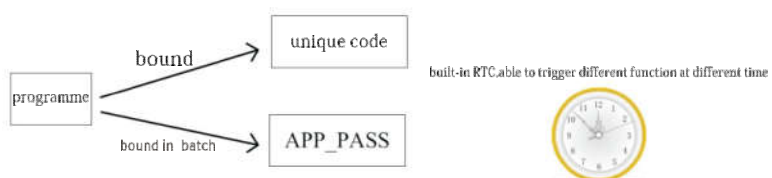


Electronic Cams

Supports Changeable Continuous Cams.

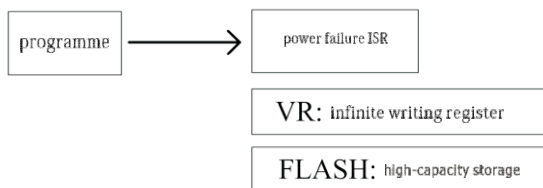


Security Assurance



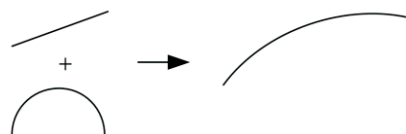
Power Failure Detection/Data-Store

The interruption function will be triggered as soon as the power failure appears.



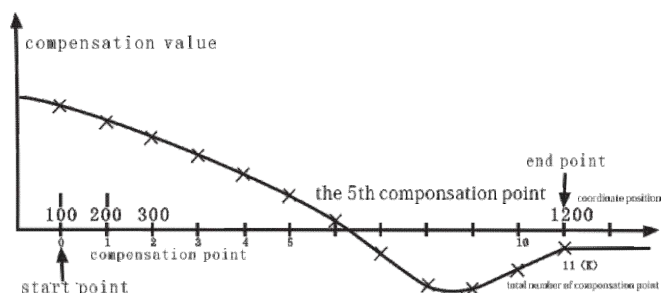
Virtual Axis/Motion-Superposition

Combined into complex motion



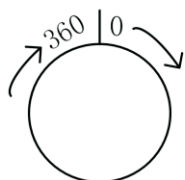
Backlash/pitch compensation

To realize the compensation only need a series of simple parameter setting.



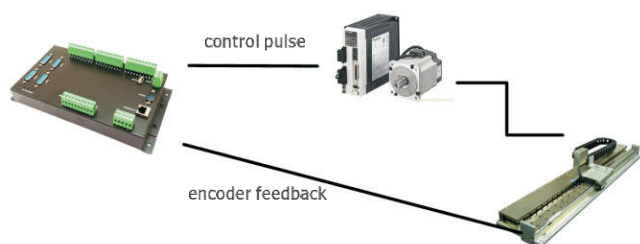
The Location Recycle Mode

The axis coordinate can be set to a limited range



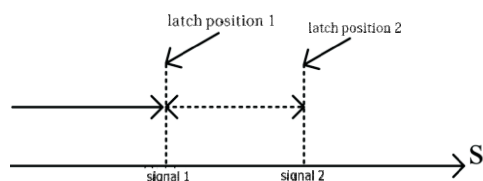
Closed Loop Pulse

Because of a specific pulse close-loop mode, the pulse and encoder can use the same axis number, supporting pitch compensation at the same time.



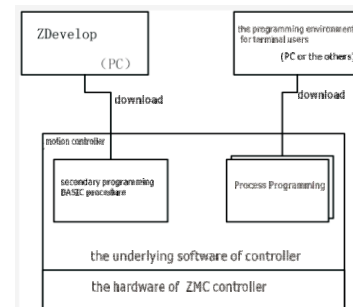
The Encoder Latch

the present position of encoder can be stored by specific input to realize a high precision test.



The 3th Programming

The controller support not only the secondary programming based on BASIC but also the 3rd-time programming, the action can be defined by BASIC programme, supporting 3th programme files, supporting BASIC grammar and G codes grammar, the 3th programme files can be imported through USB flash disk.



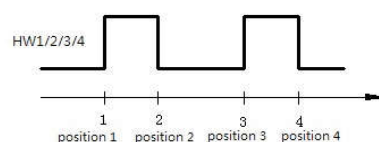
Self-defined Communication Protocol

Built-in server and client MODBUS, the controller is able to communicate with any special equipment by self-defined communication protocol.



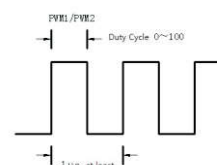
High Speed Compare Output

FPGA hardware compare component can realize hardware compare output without storage limit, usually used in high speed machine vision or laser control.



PWM Output

FPGA hardware can realize high precision PWM output, usually used in high speed dispenser or laser control.



The Others

Supports IO expansion through EtherCAT or Zcan.
Changes the coordinate while moving.
Supports PLC ladder diagram and HMI configuration environment.
Supports EtherCAT or RETEX bus.

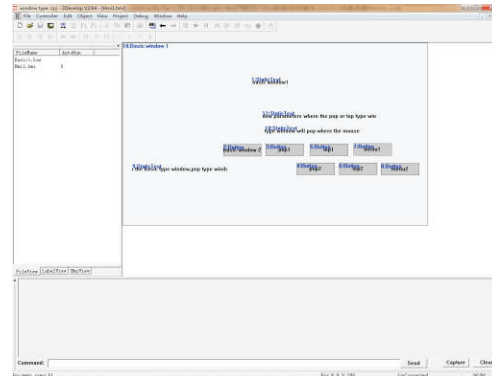
EtherCAT

RTEX
Realtime Express

Zdevelop is a development and debugging software for Zmotion controllers on PC, the users can use it to configure controller easily and develop some programmes and debug the running programmes in the controllers. Both Chinese and English are supported.

Powerful Features

- 1.Monitors the state of running controllers.
- 2.Supports three programming styles: BASIC,PLC and HMI.
- 3.Supports manual operation or online debugging.
- 4.Supports simulated running in controller or HMI.
- 5.Supports multi-tasks running or Oscilloscope.
- 6.Changes input or output state.
- 7.Checks all kinds of data in the register.
- 8.Encrypting downloaded programme and locking the controller to protect customer's intellectual property .



Various Programming Environments

ZBASIC

Zbasic supports all kinds of normal programming grammar, including variate, array, conditional judgment, loop and arithmetical operation. in addition, the extended Basic instructions and functions can realize a lot of control requirements, such as single axis motion, synchronous motion or asynchronous motion of multi-axes,at the same time, the numerical and simulated I/O control is also available. the Zbasic also support self-defined SUB process, the users can transform some normal functions into a self-defined SUB process, it makes programming and modification more convenient. Zdevelop also support other kinds of SUB process, such as SUB process for G codes. in the Zdevelop environment, variable Array and sub process of global are available, File variable, File Array and File sub of module are available, otherwise, the local variable is also available.

Zbasic have the character of real-time multitasking, more than one programme can be built and running at the same time, in this way a complex application will be easier to realize. Zbasic support interrupt routine, such as power failure interruption routine, the controller can recover its last state through the power failure interruption routine.

ZPLC Ladder Diagram

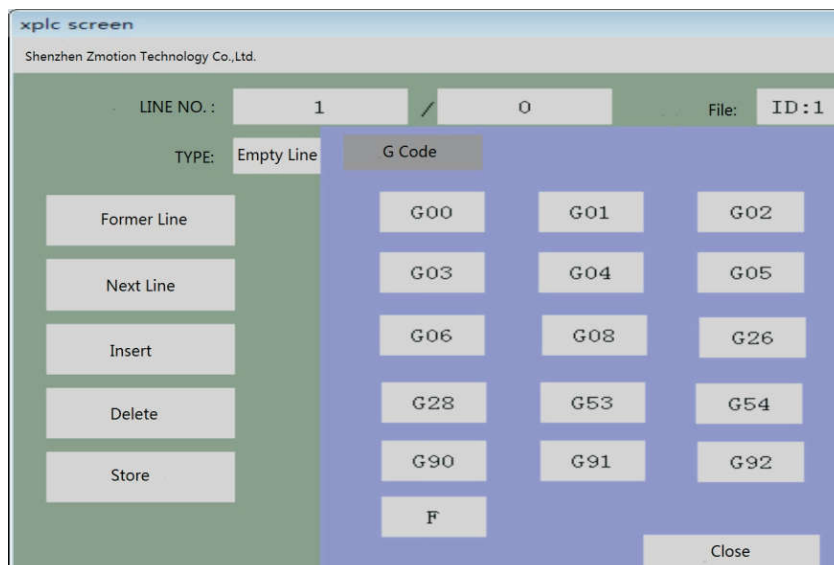
ZPLC is a PLC language used for Zmotion motion controllers, it supports ladder diagram and statement list, and its instructions are in common with Mitsubishi PLC, people who is familiar with PLC will start it quickly. supporting combined programming with ZBasic.

ZHMI Configuration Environment

ZHMI is configuration environment developed by Zmotion applied to the controllers,it can be connected to Basic and PLC ladder diagram seamlessly,to upgrade it only one time will finish updating the interface of configuration environment and the controller programs .

XPNC Nc Quasi System

The open source Nc quasi system running on the ZHMI configuration interface supports process programming by G code system directly, other function is also available as your wish.



Characteristics Of EtherCAT

EtherCAT is a kind of open architecture field bus based on Ethernet, it conforms the IEC standard.

The conduct of EtherCAT protocol is all run in the hardware, ASIC protocol can be configured flexibly, which makes work more efficient. the refresh cycle of 1000 distributed data is only 30 us, including the cycle time of terminals, to communicate with 100 servo axes only need 100 us, at the same time, we can supply all the axes with set value and control data and receive the feedback of their actual position and work states.

By the advantage of EtherCAT technology, we can realize a lot of control methods beyond the traditional field bus system.

The EtherCAT Controllers From Zmotion

1. Performance of EtherCAT, price of pulse.
2. Motion control of Up to 64 axes.
3. EtherCAT have a fastest refresh cycle of 100 us.
4. The extended isolation inputs or isolation outputs can reach 1024 through built-in CAN bus.
5. The extended isolation inputs or isolation outputs can reach 4096 through built-in ECAT bus.
6. The EtherCAT supports pulse output of 6 axes at most.
7. Built-in axis port that enables encoder input or pulse output.
8. Supports synchronous motion along with more than one device.
9. Supports interpolation of up to 16 axes, random spherical or helical interpolation.
10. Achieving closed loop control through bus protocol.
11. Fetching present moment through bus
12. Can be bound with the controller, PDO message date can be chosen freely,.
13. SDO operating for controller is available, making it convenient to read inner state of servo system.
14. A simple wiring that only needs a netting twine connected to the drive.

Application On Robotic Arms

Supports various of structures of robotic arms, be able to control more than one robotic arm at the same time.



Delta



6 DOF Robots

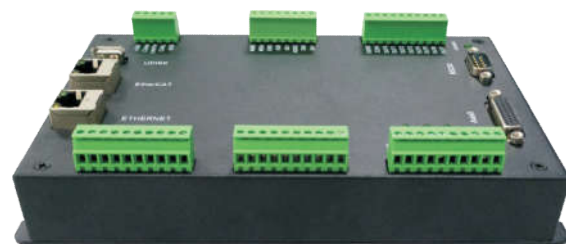


Scara

Products Features

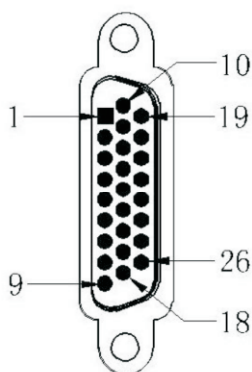
- Motion control of up to 12 axes.
- Pulse output mode: direction-pulse or double pulse.
- Supports encoder position measurement, can be configured to hand wheel input mode.
- The maximum output pulse frequency of each axis can reach 8MHz.
- The extended isolation inputs or isolation outputs can reach 512 through built-in CAN bus.
- Axis positive/negative signal/ original signal can be configured to any input.
- Supports high-current output, it can drive part of the solenoid valve directly.
- Built-in USB, RS232, RS485, Ethernet.
- Linear, spherical or helical interpolation of up to 12 axes.
- Electronic cams, gearboxes, encoder latch, synchronous Follow, virtual axis etc.
- Supports multi-file or multitask programming, PC programme and built-in programme can run simultaneously.
- Various encryption programme to protect customers' intellectual property.
- Supports various structures of robotic arms.

EtherCAT



ZMC204E

Wiring Reference



Pin	Signal	Description
1	EGND	External power supply
2	IN40-47/ALM	Common input, use of
3	OUT16 18.../ENABLE	Common input , use of
4	EA-	Encoder input
5	EB-	Encoder input
6	EZ-	Encoder input
7	+5V	Power output
8	Back up	Backup
9	DIR+	Stepping direction output
10	GND	Digital
11	PUL-	Stepping direction output
12	Back up	Backup
13	GND	Digital
14	OVCC	+24V
15	Back up	Backup
16	Back up	Backup
17	EA+	Encoder input
18	EB+	Encoder input
19	EZ+	Encoder input
20	GND	Digital
21	GND	Digital
22	DIR-	Stepping output
23	PUL+	Stepping output
24	GND	Digital
25	Back up	Backup
26	Back up	Backup

DB26PIN

Specifications

Model	Axes	Encoders	Total Axes	Inner IO Port	Inner AD	Inner DA	Axis Motion Buffers	Procedure Storage	Tasks	Power failure storage	232	422	485	EtherCAT Port	U Disk	Size(mm)	Features Description
ZMC204E	4	2	12	24+1/8+1	-	-	128	300k	6	1024	1	-	1	1	1	252*133	point-to-point,linear,circular, electronic cams,continuous interpolation, robotic arm instructions.

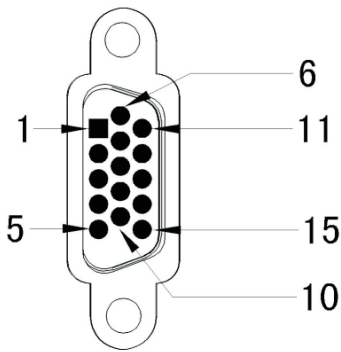
Products Features

- Motion control of up to 10 axes.
- Pulse output mode: direction-pulse or double pulse.
- Supports encoder position measurement, can be configured to hand wheel input mode.
- The maximum output pulse frequency of each axis can reach 8MHz.
- The extended isolation inputs or isolation outputs can reach 512 through built-in CAN bus.
- Axis positive/negative signal/ original signal can be configured to any input.
- Supports high-current output, it can drive part of the solenoid valve directly.
- Built-in USB, RS232, RS485, Ethernet.
- Linear, spherical or helical interpolation of up to 12 axes.
- Electronic cams, gearboxes, encoder latch, synchronous Follow, virtual axis etc.
- Supports multi-file or multitask programming, PC programme and built-in programme can run simultaneously.
- Various encryption programme to protect customers' intellectual property.
- Supports various structures of robotic arms.



ZMC304

Wiring Reference



Pin	Pulse Output Style	Description
1	PUL+	Stepping output PUL+
2	DIR+	Stepping output DIR+
3	GND	Digital GND
4	EA+	Encoder input EA+
5	EB+	Encoder input EB+
6	EZ+	Encoder input EZ+
7	ALM(IN24-29)	Alarm input (configuration needed , can be used as normal input)
8	EGND	External power supply
9	PUL-	Stepping direction output PUL-
10	DIR-	Stepping output DIR-
11	Internal Power: +5V	Internal Power
12	EA-	Encoder input EA-
13	EB-	Encoder input EA-
14	EZ-	Encoder input EB-
15	SERVON(OUT8-13)	axes enable , (can be used as normal output, no current enlarging)

DB15PIN

Specifications

Model	Axes	Encoders	Total Axes	Inner IO Port	Inner AD	Inner DA	Axis Motion Buffers	Procedure Storage	Tasks	Power failure storage	232	422	485	EtherCAT Port	U Disk	Size(mm)	Features Description
ZMC303	3	3+1	10	24+3/8+3	2	2	128	300k	6	1024	1	1	1	1	1	205*134	point-to-point, linear, circular, electronic cams, continuous interpolation, robotic arm instructions.
ZMC304	4	4+1	10	24+4/8+4	2	2	128	300k	6	1024	1	1	1	1	1	205*134	point-to-point, linear, circular, electronic cams, continuous interpolation, robotic arm instructions.
ZMC306M	4+2	4+1	10	24+4/8+6	2	2	128	300k	6	1024	1	1	1	1	1	205*134	point-to-point, linear, circular, electronic cams, continuous interpolation, robotic arm instructions.

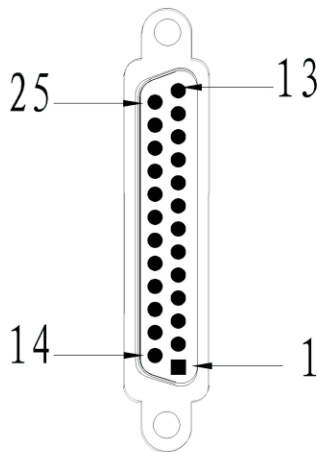
Products Features

- Motion control of up to 24 axes.
- Pulse output mode: direction-pulse or double pulse.
- Supports encoder position measurement, can be configured to hand wheel input mode.
- The maximum output pulse frequency of each axis can reach 8MHz.
- The extended isolation inputs or isolation outputs can reach 512 through built-in CAN bus.
- Axis positive/negative signal/ original signal can be configured to any input.
- Supports high-current output, it can drive part of the solenoid valve directly.
- Built-in USB, RS232, RS485, Ethernet.
- Linear, spherical or helical interpolation of up to 12 axes.
- Electronic cams, gearboxes, encoder latch, synchronous Follow, virtual axis etc.
- Supports multi-file or multitask programming, PC programme and built-in programme can run simultaneously.
- Various encryption programme to protect customers' intellectual property.
- Supports various structures of robotic arms.



ZMC308

Wiring Reference



Pin	Signal	Description
1	EGND	External power supply
2	IN40-47/ALM	Common input, use of
3	OUT16 18.../ENABLE	Common input, use of
4	EA-	Encoder input
5	EB-	Encoder input
6	EZ-	Encoder input
7	+5V	Power output
8	Back up	Backup
9	DIR+	Stepping direction output
10	GND	Digital
11	PUL-	Stepping direction output
12	Back up	Backup
13	GND	Digital
14	OVCC	+24V
15	OUT17 19.../CLR	Common output, suggest
16	Back up	Backup
17	EA+	Encoder input
18	EB+	Encoder input
19	EZ+	Encoder input
20	GND	Digital
21	GND	Digital
22	DIR-	Stepping output
23	PUL+	Stepping output
24	GND	Digital
25	Back up	Backup

DB25PIN

Specifications

Model	Axes	Encoders	Total Axes	Inner IO Port	Inner AD	Inner DA	Axis Motion Buffers	Procedure Storage	Tasks	Power failure storage	232	422	485	EtherCAT Port	U Disk	Size(mm)	Features Description
ZMC306	6	6	16	40+6/16+12	4	2	128	2000k	13	1024	1	1	1	1	1	292*188	point-to-point,linear,circular, electronic cams,continuous interpolation programme,instruction formechnical arms.
ZMC308	8	8	16	40+8/16+16	4	2	128	2000k	13	1024	1	1	1	1	1	292*188	point-to-point,linear,circular, electronic cams,continuous interpolation programme,instruction formechnical arms.
ZMC316	15+1	3	24	24+15/8+15	2	2	128	2000k	16	1024	1	1	1	1	1	302*180	point-to-point,linear,circular, electronic cams,continuous interpolation programme,instruction formechnical arms.

A controller with almost all the functions, such as bus, multi-task, Ladder Diagram, configuration etc.

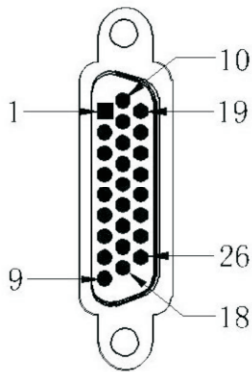
Products Features

- Motion control of up to 64 axes through EtherCAT or 32 axes through Retex.
- EtherCAT has a fastest refresh cycle of 100 us.
- Supports encoder position measurement, can be configured to hand wheel input mode.
- The maximum output pulse frequency of each axis can reach 8MHz.
- The extended isolation inputs or isolation outputs can reach 1024 through CAN.
- The extended isolation inputs or isolation outputs can reach 4096 through EtherCAT.
- The maximum output current can reach 300 mA, it can drive part of the solenoid valve directly.
- Supports synchronous motion of up to 16 axes, groups of axes run simultaneously.
- Supports pulse closed loop, pitch compensation etc.
- Supports other normal functions without bus.



ZMC432

Wiring Reference



Pin	Signal	Description
1	EGND	External power supply
2	IN40-47/ALM	Common input, use of
3	OUT16 18.../ENABLE	Common input, use of
4	EA-	Encoder input
5	EB-	Encoder input
6	EZ-	Encoder input
7	+5V	Power output
8	Back up	Backup
9	DIR+	Stepping direction output
10	GND	Digital
11	PUL-	Stepping direction output
12	Back up	Backup
13	GND	Digital
14	OVCC	+24V
15	Back up	Backup
16	Back up	Backup
17	EA+	Encoder input
18	EB+	Encoder input
19	EZ+	Encoder input
20	GND	Digital
21	GND	Digital
22	DIR-	Stepping output
23	PUL+	Stepping output
24	GND	Digital
25	Back up	Backup
26	Back up	Backup

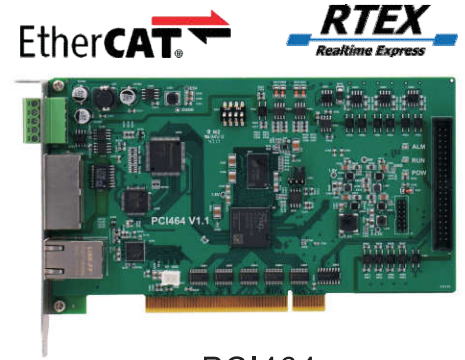
DB26PIN

Specifications

Model	Axes	Encoders	Total Axes	Inner IO	Inner AD	Inner DA	Axis Motion Buffers	Procedure Storage	Tasks	Power failure storage	232	422	485	EtherCAT Port	U Disk	Size(mm)	Features Description
ZMC406	6	6	6	24+6/12+6	-	2	512	32M	22	8000	1	-	1	1	1	205*136	point-to-point, linear, circular, electronic cams, continuous interpolation, robotic arm instructions.
ZMC412	12	6	32	24+6/12+6	-	2	512	32M	22	8000	1	-	1	1	1	205*136	point-to-point, linear, circular, electronic cams, continuous interpolation, robotic arm instructions.
ZMC432	32	6	32	24+6/12+6	-	2	512	32M	22	8000	1	-	1	1	1	205*136	point-to-point, linear, circular, electronic cams, continuous interpolation, robotic arm instructions.
ZMC342N	32	6	38	24+6/12+6	-	2	512	32M	22	8000	1	-	1	Retex	1	210*136	point-to-point, linear, circular, electronic cams, continuous interpolation, robotic arm instructions.
ZMC464	64	6	64	24+6/12+6	-	2	512	32M	22	8000	1	-	1	1	1	205*136	point-to-point, linear, circular, electronic cams, continuous interpolation, robotic arm instructions.
ZMC464R	64	6	64	24+6/12+6	-	2	512	32M	22	8000	1	-	1	1	1	205*136	point-to-point, linear, circular, electronic cams, continuous interpolation, robotic arm instructions. Especially for Delta and 6 DOF robotic arm.

Products Features

- Motion control of up to 64 axes through EtherCAT or 32 axes through Retex;
- EtherCAT has a fastest refresh cycle of 100 us(within 16 axes);
- Supports encoder position measurement, can be configured to hand wheel input mode;
- The maximum output pulse frequency of each axis can reach 10MHz;
- The extended isolation inputs or isolation outputs can reach 4096 through EtherCAT ;
- The maximum output current can reach 300 mA,it can drive part of the solenoid valve directly;
- Supports linear、 random spherical or helical interpolation of up to 16 axes;
- Supports electronic cam/gearbox/position latch/synchronous follow/virtual axes etc;
- Supports pulse closed loop, pitch compensation etc;
- Supports multitask programming in Zbasic;
- Various encryption programme to protect customers' intellectual property.



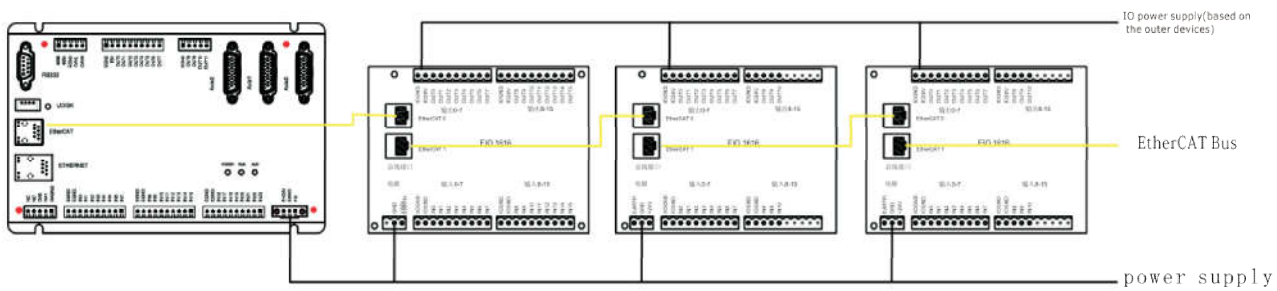
PCI464

Wiring Reference

Specifications

Model	Axes	Encoders	Total Axes	Inner IO	Inner AD	Inner DA	Axis Motion Buffers	Procedure Storage	Tasks	Power failure storage	232	422	485	EtherCAT Port	U Disk	Size(mm)	Features Description
PCI416	16	6	16	24+6/12+6	_	2	512	32M	22	8000	1	_	1	_	1	205*136	point-to-point,linear,circular, electronic cam,continuous interpolation program,instruction formechnical arms.
PCI432	32	6	32	24+6/12+6	_	2	512	32M	22	8000	1	_	1	_	1	205*136	point-to-point,linear,circular, electronic cam,continuous interpolation program,instruction formechnical arms.
PCI432N	32	6	32	24+6/12+6	_	2	512	32M	22	8000	1	_	1	Rtex	1	205*136	point-to-point,linear,circular, electronic cam,continuous interpolation program,instruction formechnical arms.
PCI464	64	6	64	24+6/12+6	_	2	512	32M	22	8000	1	_	1	_	1	205*136	point-to-point,linear,circular, electronic cam,continuous interpolation program,instruction formechnical arms.

Wiring Reference



The Configuration Of Extended IO

the number of ECAT interface, its default value is 0

to configure the IO start number of extended module (a multiple of 8)

$$\text{node_io}(\text{slot}, \text{node}) = \text{iobase}$$

the number of device connected to ECAT port, start from 0

The Configuration Of Extended Axes

pins from 0 to 15	(drive number)+1, 0- Auto assignation
pins from 16 to 18	SLOT number

axis No. mapped to drive

No. of connected drive

$$\text{axis_adress}(\text{axisnum}) = \text{drivernum} + 1$$

$$\text{atype}(\text{axisnum}) = 65$$

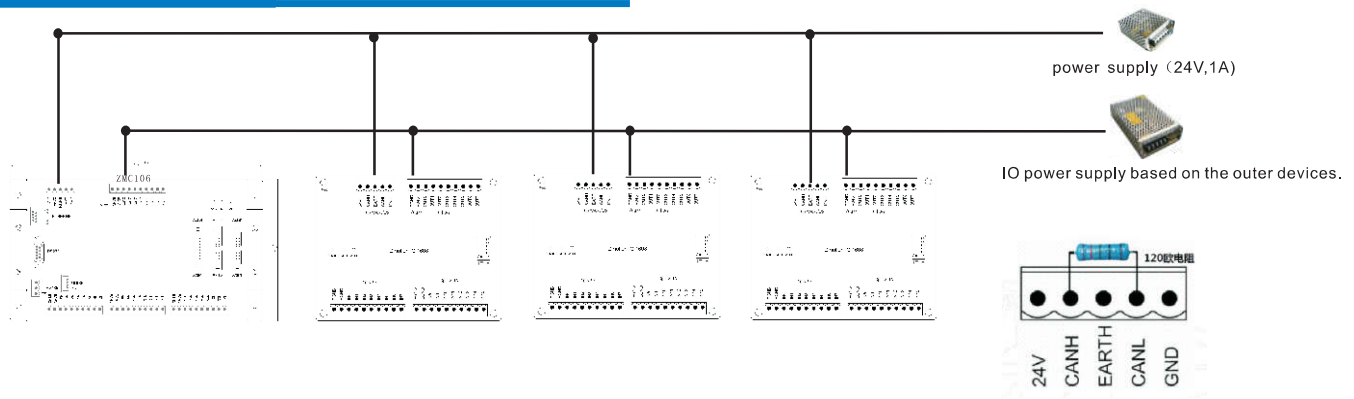
axes control mode (65 means position control mode)

Specifications

Model	Axes	Encoders	Total Axes	Inner IO	Inner AD	Inner DA	Axis Motion Buffers	Procedure Storage	Tasks	Power failure storage	232	422	485	EtherCAT Port	U Disk	Size(mm)	Features Description
EIO1616	-	-	-	16/8	-	-	-	-	-	-	-	-	-	2	-	143*107	Standard modules
EIO24288	8	8	8	24/8	-	-	-	-	-	-	-	-	-	2	-	210*147	expansion axes of up to 8

Notes: ZMC controller supports third-party EtherCAT Expansion module, welcome to contact Zmotion to get supply.

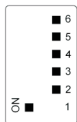
Wiring Reference



Reference Diagram For Dialing Code Number

Combination Value	IO Start Number	IO End Number	AD Start Number	AD End Number	DA Start Number	DA End Number
0	16	31	8	15	4	7
1	32	47	16	23	8	11
2	48	63	24	31	12	15
3	64	79	32	39	16	19
4	80	95	40	47	20	23
5	96	111	48	55	24	27
6	112	127	56	63	28	31
7	128	143	64	71	32	35
8	144	159	72	79	36	39
9	160	175	80	87	40	43
10	176	191	88	95	44	47
11	192	207	96	103	48	51
12	208	223	104	111	52	55
13	224	239	112	119	56	59
14	240	255	120	127	60	63
15	256	271	128	135	64	67

dialing code 1-4



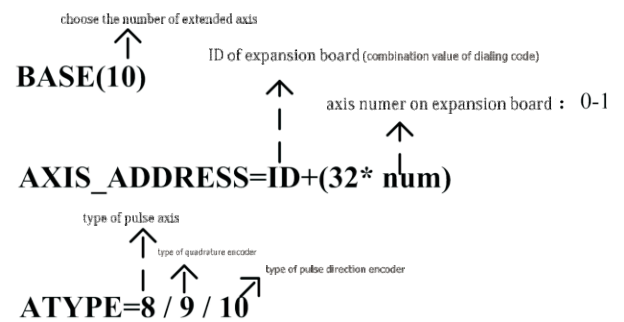
- while a single dialing code is ON, the number is 1, while OFF, it's 0;
- the combination value of dialing code from 1 to 4;
- the combination value of dialing code from 5 to 6;
- the combination value of dialing code from 1 to 4 is 1 on the left diagram, the combination value of dialing code from 5 to 6 is 0.

Combination Value	Explanation
0	speed:500KBPS
1	speed:250KBPS
2	speed:125KBPS
3	speed:1MBPS

main controller have no dialing code, the relevant function can be configured by system parameter CANIO_ADDRESS.

dialing code 5-6

Extended Axes Configuration



Specifications

Model	Axes	Encodes	Total Axes	Inner IO	Inner AD	Inner DA	Axis Motion Buffers	Procedure Storage	Tasks	Power Failure Storage	232	422	485	Ethernet Port	U Disk	Size(mm)	Description
ZIO0808	-	-	-	8/8	-	-	-	-	-	-	-	-	-	-	-	98*72	Standard modules
ZIO0016	-	-	-	0/16	-	-	-	-	-	-	-	-	-	-	-	98*72	Standard modules
ZIO1608	-	-	-	16/8	-	-	-	-	-	-	-	-	-	-	-	126*99	Standard modules
ZIO1616	-	-	-	16/16	-	-	-	-	-	-	-	-	-	-	-	142*107	Standard modules
ZIO1632	-	-	-	16/32	-	-	-	-	-	-	-	-	-	-	-	196*107	Standard modules
ZAIO0802	-	-	-	-	8	2	-	-	-	-	-	-	-	-	-	120*76	Standard modules

The first teaching box supporting free form programming and different HMI with Modbus RTU or Modbus TCP protocol.

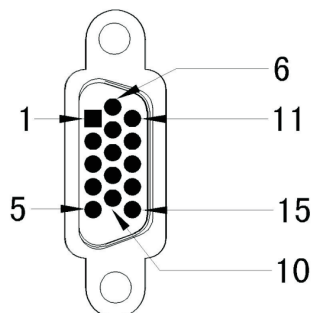
Products Features

- Programmable teaching box, able to realize various interfaces through script programme.
- Drawing functions: Chinese or English character, line, circle, picture.
- Emergency stop button.
- With 47 or 18 keys, key function is customized.
- Serial port, USB, U disk
- Supports Modbus or self-defined protocol
- Applied to various machine or manipulator control
- Supports HMI screen
- A touch screen with distinguishability of 800*480



ZHD400X

Wiring Reference



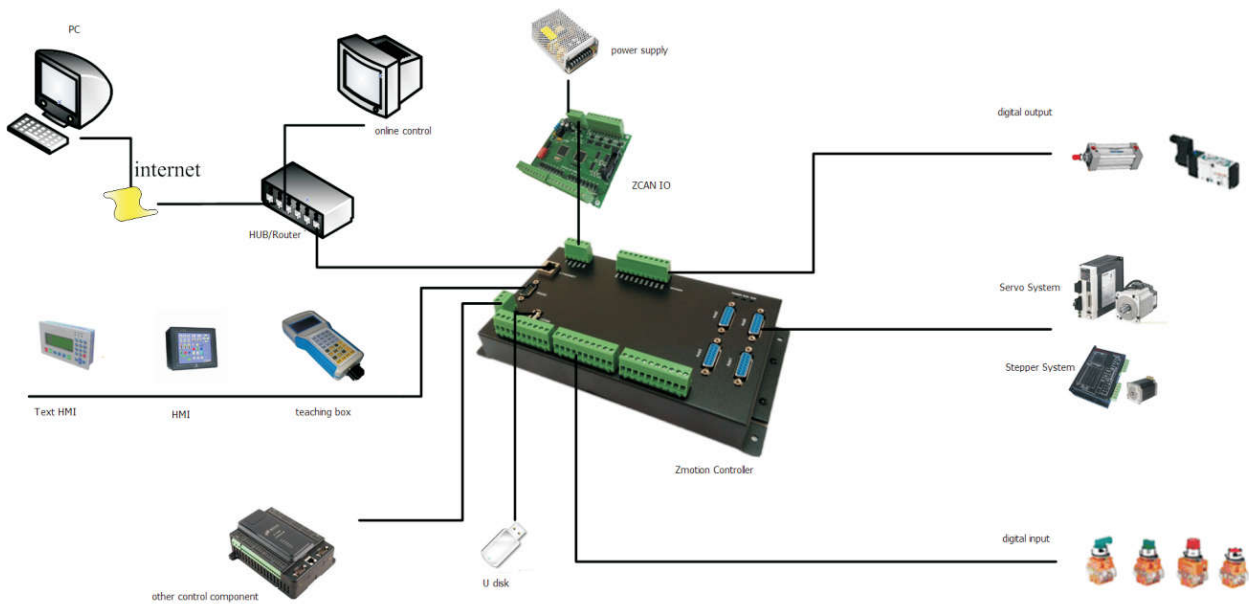
Pin	Name	Notes
1	UDISK 5V	U disk signal
2	UDISK-	U disk signal
3	UDISK+	U disk signal
4	UDISK GND	U disk signal
5	EGND	outer groundding power
6		
7	EMG	outout of normallg closed emergency stop model
8		
9	DC24V	power inpur,for power supply
10	EGND	reservation
11		
12	TX-	ETH orange,2 pins for RJ45
13	TX+	ETH grey orange,1 pin for RJ45
14	RX-	ETH green,6 pins for RJ45
15	RX+	ETH grey green,3 pins for RJ45

DB15PIN

Specifications

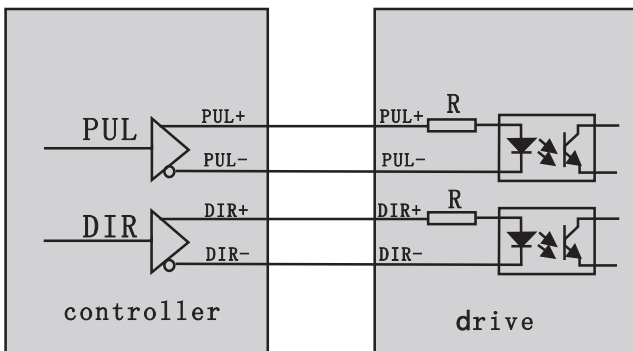
Model	Resolution	Size(mm)	Key Number	Emergency Button	Protocol	Description
ZHD300X	480*272	280*131	47	Yes	ZMC Configuration Protocol	Touch Screen supported,can be used together with keys. When used together with controller,it is necessary to make sure the controller supports XPLC and the Zdevelop edition is above 2.6.
ZHD400X	800*480	280*165	18	Yes	ZMC Configuration Protocol	Touch Screen supported,can be used together with keys. When used together with controller,it is necessary to make sure the controller supports XPLC and the Zdevelop edition is above 2.6.

Wiring Reference

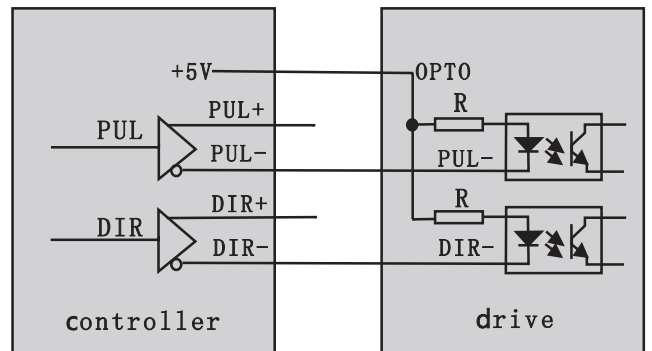


Pulse Connection

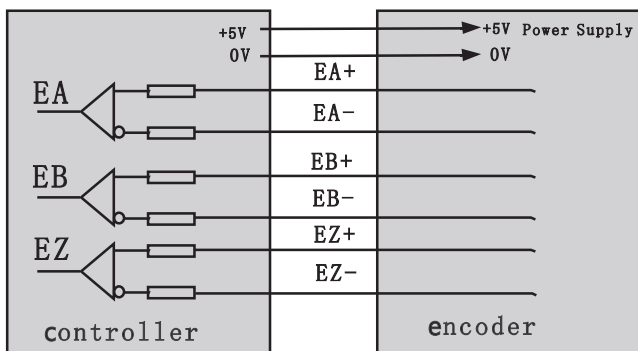
Differential Connection Mode:



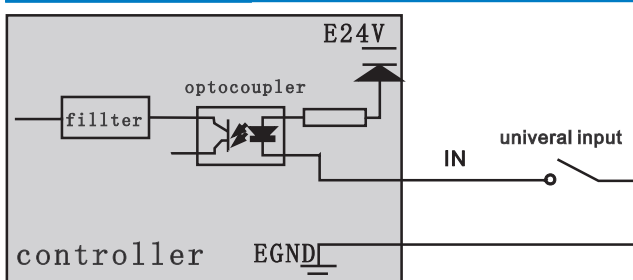
Single End Connection Mode:



Encoder Connection



Input Circuit



Output Circuit

