VM-1600END Module

Manual

Version V1.1 Archived Date 2023-03-07

Veichi Electric Co., Ltd. provides customers with a full range of technical support, so users can reach the nearest Veichi Electric Co., Ltd. office or customer service center, or the company headquarters directly.

Veichi Electric Co.

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Veichi Electric Co.

Address: 3rd Floor, Chunsheng, Linoya Industrial Park, Tangtou 1 Road, Tangtou Community,

Shiyan, Baoan District, Shenzhen, China.

Service hotline: 400-600-0303

Company website: www.veichi.com

Preface

Profile

VM-0008ETN series digital output expansion module has 8-channel digital output via transistor NPN. It can be used with VM series master station and VM series VM-RTU-ECT or VM-RTU-PN interface modules.

Other Files

File	Content
VM-RTU-ECT	Introduction of product installation, wiring, use and other details
VM-RTU-PN	Introduction of product installation, wiring, use and other details
VM500/600/800	Introduction of product installation, wiring, use and other details

Version Change Log

Revision date	Version	Content
2023-3	A1.1	Minor error correction
2022-11	A1.0	First release of the manual

Manual Access

This manual is not shipped with the product, so users can get its PDF version in the following way:

- Log on to the official website of Veichi Electric (www.veichi.com), "Service and Support-Download", type in keywords and download.
- Scan the QR code on the product body to get the manual with mobile phone.

Warranty Statement

If malfunctions or damage occur on the product under normal use, Veichi Electric offers 18-month warranty (from the date of shipment from the factory, subject to the bar code on the body, and in accordance with the agreements between parties if there are some). Customers will be charged if it exceeds 18 months while damages caused by the following conditions will be charged if it is within 18 months.

- Product damage caused by wrong methods against this manual.
- Product damage caused by fire, flood, or abnormal voltage.
- Product damage caused for abnormal functions against this manual.
- Product damage caused for unspecified purposes against this manual.

Secondary damage to the product caused by force majeure (natural disasters, earthquakes, lightning strikes) factors.

The relevant service costs are calculated according to the manufacturer's standards, and if there is a contract, the contract will be handled on a priority basis. Please refer to the Product Warranty Card for detailed warranty description.

Safety Precaution

Safety Statement

- Read and follow these safety precautions before installing, operating, and maintaining the product.
- Follow all safety precautions stated on the product's labeling and in the manual when installing, operating, and maintaining the product for personal and equipment safety.
- The "CAUTION", "WARNING" and "DANGER" items in this manual do not mean all safety precautions to be observed, but are only supplementary to safety precautions.
- This product shall be used in an environment that complies with the design specifications, otherwise it may cause malfunction, and malfunction or damage to parts caused by failure to comply with the relevant regulations are not covered by the product warranty terms.
- Veichi will not take on any legal responsibility for personal safety accidents, property damage, etc., caused by unauthorized operation of the product.

Safety Level Definition

DANGER " means death or serious bodily injuries if not operated in accordance with the regulations.

WARNING: "WARNING" means death or serious bodily injuries if not operated in accordance with the regulations.

CAUTION: "CAUTION" means minor bodily injuries or damage to the equipment if not operated in accordance with the regulations.

Keep this guide in a safe place in case it is needed, and be sure to give this manual to the end user.

During Control System Design

Anger :

- Be sure to design safety circuits so that the control system will still work safely when the external power supply drops out or the programmable controller malfunctions;
- If the rated load current is exceeded or the load is short-circuited, etc., resulting in prolonged overcurrent, the module may smoke or is on fire, so safety devices such as fuses or circuit breakers shall be installed externally.

WARNING :

Be sure to provide emergency brake circuits, protection circuits, interlock circuits for forward and reverse operation, and upper and lower position interlock switches to prevent damage to the machine in the external circuits of the programmable controller;

- Design external protection circuits and safety mechanisms for output signals related to major accidents for safe operation of the equipment;
- The programmable controller CPU may stop all output when it detects an abnormality in its own system; when some of the controller's circuits fail, output may turn uncontrolled. Please design suitable external control circuits in order to ensure normal operation;
- Damage to output units such as relays and transistors of programmable controllers will cause their output uncontrolled to the ON or OFF state;
- The programmable controller is designed to be used in indoor, overvoltage class II electrical environments, and its power supply system should be equipped with lightning protection to ensure that lightning overvoltage is not added to the programmable controller's power input or signal input, control output and others, so as to avoid damage to the equipment.

Installation

WARNING :

- Only maintenance professionals with adequate electrical knowledge and training related to electrical equipment should carry on installation work;
- When removing or installing a module, the external power supply to the system must be completely disconnected beforehand. Failure to fully disconnect the power supply may result in electric shock or module malfunction and misoperation;
- Do not use the programmable controller in the following places: places with dust, grease, conductive dust, corrosive gases, flammable gases; places exposed to high temperature, condensation, wind and rain; and places subject to vibration and shock. Electric shock, fire, and misuse can also cause damage and deterioration to the product;
- Programmable controllers are open type devices, please install them in control cabinets with door locks (protection of the control cabinet housing > IP20), and only operators who have been trained with sufficient electrical knowledge about equipment shall open the control cabinets.

CAUTION :

- Avoid metal shavings and wire ends falling into the ventilation holes of the controller during installation, which may cause fire, malfunction, and misoperation;
- Ensure that there is no foreign matter on its ventilation surface after installation, otherwise it may lead to poor heat dissipation, which may cause fire, malfunction, and misoperation;
- Connect the modules tightly to their respective connectors and lock the module connection hooks securely. Improper installation of the module may result in malfunction, malfunction and disconnection.

Wiring

DANGER	:
×	Wiring of this product should only be carried out by specialized maintenance personnel with
	adequate electrical knowledge and training related to electrical equipment;
>	During wiring, the external supply power to the system must be fully disconnected in advance.
	Failure to do so may result in electric shock or equipment failure or malfunction;
>	The terminal cover supplied with the product must be installed before power-up and operation.
	Failure to install the terminal cover may result in electric shock;
>	The cable terminals should be well insulated to ensure that the insulation distance between the
	cables is not reduced after the cables are installed in the terminal block. Failure to do so may result
	in electric shock or equipment damage.
CAUTION	:
>	To avoid electric shock, disconnect the power supply before connecting the power supply to this
	product;
~	The input power supply of this product is DC24V, if the supplied power is not within $\pm 20\%$ of
	DC24V, this product will be seriously damaged. Therefore, please check whether the DC power
	supply provided by the switching power supply is stable or not regularly.
	Maintenance
CAUTION	:
~	Only specialized maintenance personnel with adequate electrical knowledge and training related to
	electrical equipment shall carry out the operational maintenance of the product;
>	When cleaning the module or re-tightening the bolts on the terminal strip or connectors, the
	external power supply to the system must be completely disconnected. Failure to do so may result in electric shock;
>	When disassembling a module or making connections to or removing communication cables, the
	external supply power to the system must first be completely disconnected. Failure to fully
	disconnect may result in electric shock or malfunction.
Safety Recom	mendations
>	Please consider the manual installation or other spare methods that are separate from PLC to stop or
	start the system when there are mechanical parts that will be touched directly by operators like
	position of loading/unloading tools or parts with auto running function.
>	If it is necessary to modify the programs while the system is in operation, please consider to add
	locks or other safeguards to ensure that only authorized personnel can make the necessary
	modifications.
	Scrapping
CAUTION	:

Dispose of this product as industrial waste, and the batteries should be handled separately in accordance with local laws and regulations;
 Dispose of equipment and products in accordance with industrial waste disposal standards to avoid environmental pollution.

1 Product Information

1.1 Naming Rules and Nameplate Description

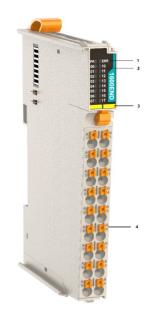
VM	- <u>16</u>	<u>6 00</u>	<u>E</u>	ND	
0		2	3	4	
[®] Product Information					
VM: Veichi Flexible So	eries IO Modu	ıle			
① IO input channel					
16:16 channels					
^② IO output channel					
00: 0 channel					
③ Module type					
E: Logic IO expansion	E: Logic IO expansion module				
④ Output type					
R: Relay output					
TP: Transistor output (source type)					
TN: Transistor output (drain type)					
ND: No output					



The relevant ordering data for this product is shown in the table below based on the above naming rules and nameplate information:

Model	Description	Machine code	Application
VM-1600END	VM series 16-channel		VM-series PLC,
	digital input		VM-series coupler

1.2 Component Description



No.	Interface	Function definition			
1	Signal	PR	Power/Run	On (green)	Module is working
	indicator	(POWER+RUN)	indicator		properly.
				Off	Module is abnormal.
				Flashing	Module is in ready or
				(green)	stop state.
		ERR	Error indicator	On (red)	Module is in error state.
2	IO signal	The left side (00~07) indicators correspond to the 8 input channels respectively,			
	indicator	and the input indicator is on;			
		The right side (10~17) indicators correspond to the 8 input channels			
		respectively, and the input indicator is on.			
3	Color	Yellow: IO input Red: IO output			
		Green: analog input Blue: analog output			

			Orange: temperature measurement input	
-	4	User terminal	See the terminal definition section for details.	

1.3 Specification

1.3.1 Power Specification

Item	Specification
Rated voltage of terminal input voltage	24V DC (20.4V DC~ 28.8V DC)
Rated current of terminal input power	2A (typical at 24V)
Rated voltage of bus input power	5V DC (4.75V DC~5.25V DC)
Rated current of bus input power	85mA (typical at 5V)
Power isolation	Relative isolation between 24V and V5
Rated voltage of terminal output power	None
Rated current of terminal output power	None
Module hot-swap function	Not available

1.3.2 Input Specification

Item	Specification	
Input type	Digital input	
Input method	Source/drain type	
Input channel	8	
Input voltage level	24V DC±10% (21.6V DC~26.4V DC)	
Input current (typical)	4mA (typical at 24V)	
ON voltage	>15V DC	
OFF voltage	<5V DC	
Hardware response time ON/OFF	100uS/100uS	
Software filter time	Available	
Input impedance	Reference value 5.3k~5.6k	
Isolated or not	Isolated	
Input action display	Input indicator lights up when the input is on (software controlled)	

Input derating	75% derating at 55°C (with no more than 12 input terminals
	while ON), or 10°C derating when input terminals are all ON

1.3.3 Software Specification

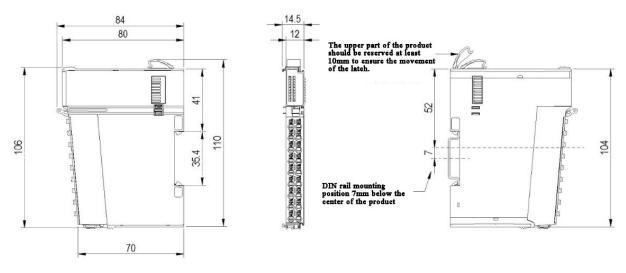
Item	Specification
Software input filter time	0.25ms*N (N=0~255) 8 channels per group, and every
	group shares one filter parameter
Abnormality detection and indication of input	None
Logic level configuration of input	Not available
Independent terminal configuration	Not available
Diagnosis report configuration	Not available
Stop mode	Output is not refreshed, input is refreshed in safeop
	support
IO mapping	Support three IO mapping methods: per-bit access,
	per-byte access and per-word access

2 Mechanical Installation

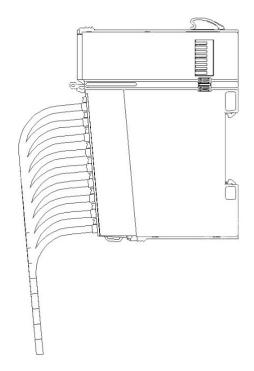
2.1 Mounting Dimensions

2.1.1 Module

Mounting dimension information is shown below in (mm).



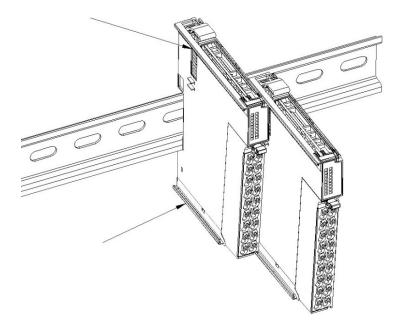
2.1.2 Connection Cables



2.2 Installation

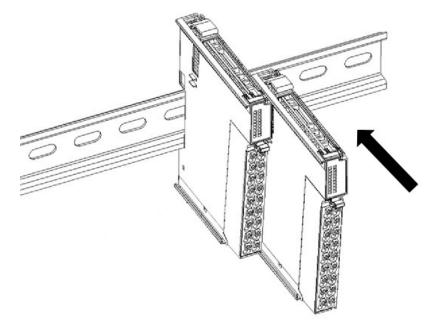
2.2.1 Inter-module Installation

Inter-module assemblies are slide-mounted via the top and bottom rails.



2.2.2 Rail Installation

DIN rail mounting is adopted here. When installing, align the module with the DIN rail and press the snap until there is a clear click sound. As shown in the figure below.

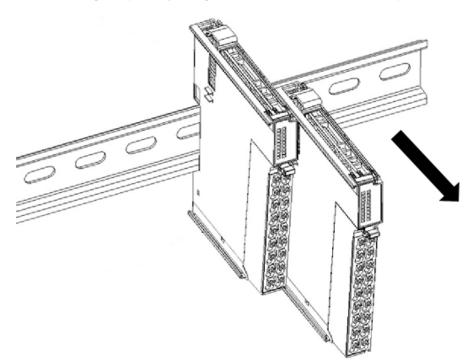


Note: Push the rail snaps first to open state, place the module onto the DIN rail, press down the top of the snaps with your hand until it is in place. Install a DIN rail clamp at each end of the main unit or

module and when install them, hook the bottom of the DIN rail clamp to the bottom of the DIN rail and then rotate the DIN rail clamp so that the top end of the DIN rail clamp is hooked to the top end of the DIN rail, and then finally tighten the screws to lock the DIN rail clamp.

2.2.3 Disassembly

Push the rail snap with your finger and pull the module out in the direction away from the DIN rail.



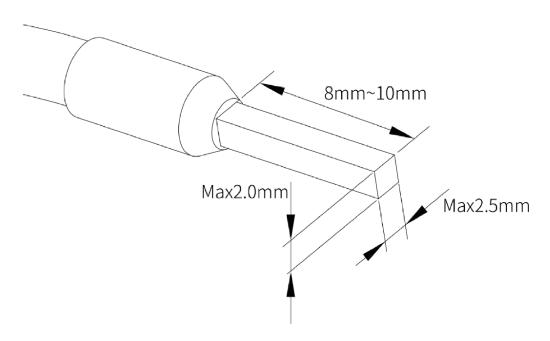
3 Electrical Installation

3.1 Cable Selection

The wire lug diameters in the following table are for reference only, and can be adjusted according to reasonable calculations based on practical use.

Material name	Wire diameter		
	PRC standard /mm2	American standard (US) /AWG	
Tube lug	0.3	22	
	0.5	20	
	0.75	18	
	1.0	18	
	1.5	16	

If other tube lugs are used, crimp them to the stranded wire, shape and size are required as shown below.



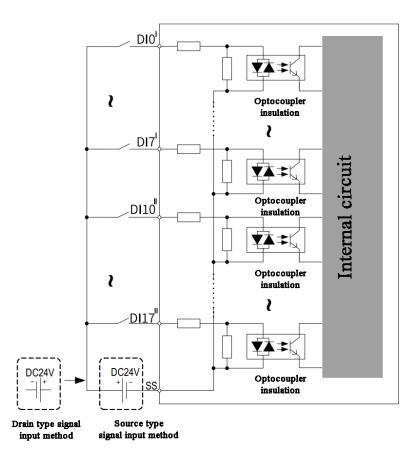
3.2 Terminal Definition



Left indicator	Left signal	Left terminal	Right	Right signal	Right
			terminal		indicator
00	X00	A1	B1	X10	10
01	X01	A2	B2	X11	11
02	X02	A3	B3	X12	12
03	X03	A4	B4	X13	13
04	X04	A5	B5	X14	14
05	X05	A6	B6	X15	15
06	X06	A7	B7	X16	16
07	X07	A8	B8	X17	17
/	SS0	A9	В9	SS1	/

3.3 Terminal Wiring

3.3.1 Input Terminal Wiring



4 Module Programming Example

4.1 Veichi Auto Studio with VC5

4.1.1 Create A New Project

New project		×
Temporary	Project	
Program name	RTU-ECT	
Location	C:\Users\V4974\Desktop\转正\RTU-ECT\	
PLC type	VC5 ×	
Default editor	Ladder chart ~	
Description]
	OK Cancel	

4.1.2 Configure EtherCAT Task

X
ОК
Cancel

4.1.3 Import the xml File

Import the current latest version of VM-RTU-ECT_1.0.0.xml description file and double click to add it to the device:

EtherCAT Add Slaves	×
Device Configuration:	Device Added:
EtherCAT Devices ∀EICH Ac300_ECAT_V1.1 AC310_ECAT_V1.2 SD700_ECAT_V1.2_G SD700_ECAT_V1.2_G SD700_ECAT_V1.2_G SD710_EtherCAT(CoF) Servo Drive Rev22 VM-RTU-ECT_1.0.0	-EtherCAT Master
Import Config EtherCAT Add Slaves	Close
Device Configuration:	Device Added:
EtherCAT Devices VEICHI AC300_ECAT_V1.1 AC310_ECAT_V1.2 G SD700_ECAT_V1.2 G SD710 EtherCAT(CoE) Servo Drive Rev22 VM-RTU-ECT_1.0.0	EtherCAT Master
Import Config	Close

4.1.4 Slot Configuration

Currently, VC5 requires slot configuration of the device first, and the configuration of the expansion modules and the order must be consistent with the physical object, otherwise an alarm will pop up to indicate that the configuration does not match what is connected.

Base Information	Number	Name		Name	ID	Description
	1	VM-1600END_1		VM-0808ETN	0x20210001	VM-0808ETN(8 channels DI and 8 channels DO m
General Setting	2			VM-0808ETP	0x20210002	VM-0808ETP(8 channels DI and 8 channels DO m
Process Data	3			VM-0008ETN	0x20210003	VM-0008ETN(8 channels DO module)
	4			VM-0008ETP	0x20210004	VM-0008ETP(8 channels DO module)
Startup Parameter	5			VM-1600END	0x20210005	VM-1600END(16 channels DI module)
Slots Configure	6			1 VM-0800END	0x20210006	VM-0800END(8 channels DI module)
Siots conligure	7			VM-0016ETN	0x20210007	VM-0016ETN(16 channels DO module)
I/O Mapping	8			VM-0016ETP	0x20210008	VM-0016ETP(16 channels DO module)
	9		<< Add	VM-4AD	0x20211001	VM-4AD(4 channels AD Module)
	10			VM-8AD-I	0x20211002	VM-8AD-I(8 channels AD Module Current Input)
	11			VM-8AD-V	0x20211003	VM-8AD-V(8 channels AD Module Voltage Input)
	12			VM-4DA	0x20212001	VM-4DA(4 channels DA Module)
	13		Delete >>	VM-8DA-I	0x20212002	VM-8DA-I(8 channels DA Module Current Input)
	14		Delete 22	VM-8DA-V	0x20212003	VM-8DA-V(8 channels DA Module Voltage Input)
	15			NM-4PT	0x20211101	VM-4PT(4 channels PT Module)
	16			NM-4TC	0x20211102	VM-4TC(4 channels 4TC Module)
				STR VM-8TC	0x20211103	VM-8TC(8 channels 8TC Module)
	<					

4.1.5 IO Mapping

VC5 default setting is no mapping, so it is necessary to map the registers that will be controlled and monitored to the soft components before actual use, otherwise users can't operate on them.

Base Information	Variable	Name	Index	Sub-Index	DataType
General Setting	None	Device control	0xEB00	0x00	UINT
General Setting	None	VBus status	0xF100	0x01	UINT
Process Data	None	Fault ID	0xF100	0x02	UINT
	None	VM-1600END_1 Digital input CH0-bit0	0x6000	0x01	BOOL
Startup Parameter	None	VM-1600END_1 Digital input CH0-bit1	0x6000	0x02	BOOL
Slots Configure	None	VM-1600END_1 Digital input CH0-bit2	0x6000	0x03	BOOL
	None	VM-1600END 1 Digital input CH0-bit3	0x6000	0x04	BOOL
	None	VM-1600END_1 Digital input CH0-bit4	0x6000	0x05	BOOL
	None	VM-1600END_1 Digital input CH0-bit5	0x6000	0x06	BOOL
	None	VM-1600END_1 Digital input CH0-bit6	0x6000	0x07	BOOL
	None	VM-1600END 1 Digital input CH0-bit7	0x6000	0x08	BOOL
	None	VM-1600END_1 Digital input CH1-bit0	0x6000	0x09	BOOL
	None	VM-1600END_1 Digital input CH1-bit1	0x6000	0x0A	BOOL
	None	VM-1600END_1 Digital input CH1-bit2	0x6000	0x0B	BOOL
	None	VM-1600END 1 Digital input CH1-bit3	0x6000	0x0C	BOOL
	None	VM-1600END_1 Digital input CH1-bit4	0x6000	0x0D	BOOL
	None	VM-1600END_1 Digital input CH1-bit5	0x6000	0x0E	BOOL
	None	VM-1600END 1 Digital input CH1-bit6	0x6000	0x0F	BOOL
	None	VM-1600END 1 Digital input CH1-bit7	0x6000	0x10	BOOL

4.1.6 Set Parameters

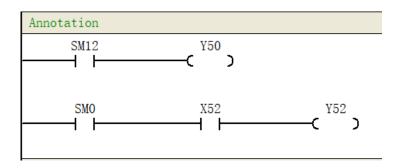
filtertime: digital input filter parameters (index number in the EtherCAT application: 0x8000+0x40*slot number), 8-channel outputs share one set of filter parameters, two independent filter parameters can be set corresponding to CH0 and CH1 respectively. Unit 0.25ms, setting range 0~255, i.e. 0.25ms*N (N=0~255).

VM-1600END_1	
Input Channel 0	
Filtering Time:	
4-1.00ms	
Input Channel 1	
Filtering Time:	
4-1.00ms	\sim

or

Base Information	Add	Modify Delete View Hide System Pa	rameter				
General Setting	Number	Name	Index	Sub-Index	Bit-Len	Value	
Process Data	1	Configuration Error run state	0xF800	0x01	8	0x0	
Charles Description	2	Slave and module Error run state	0xF800	0x02	8	0x0	
Startup Parameter	3	EtherCAT Commucation error mode	0xF800	0x03	8	0x1	
Slots Configure	4	ESC error counter behavor	0xF800	0x04	8	0x0	
	5	DI module CH0 filter time(0.25ms)	0x8000	0x01	8	0x4	
I/O Mapping	6	DI module CH1 filter time(0.25ms)	0x8000	0x02	8	0x4	

4.1.7 Write User Programs



4.1.8 Compile, Download and Run

If there are no errors during compiling, download and run it.

4.2 Simple Commissioning with Beckhoff TwinCAT

4.2.1 Import the xml File

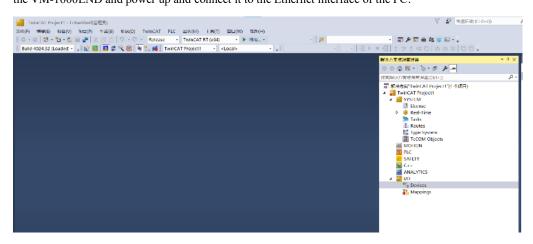
Copy the current latest version of the description file VM-RTU-ECT_1.0.0.xml to the TwinCAT installation directory under TwinCAT\3.1\Config\Io\EtherCAT.

此申脑→	系统 (C:)	>	TwinCAT	>	3.1	>	Confia	>	lo	>	EtherCAT

电脑 → 系统(C:) → TwinCAT → 3.1 → Con	fig → Io → EtherCAT		
名称 ^	修改日期	类型	大小
Beckhoff ER1xxx.XML	2022/6/20 8:53	XML 文档	244 KB
Beckhoff ER2xxx.XML	2022/6/20 8:53	XML 文档	261 KB
Beckhoff ER3xxx.XML	2022/6/20 8:53	XML 文档	1,177 KB
Beckhoff ER4xxx.xml	2022/6/20 8:53	XML 文档	318 KB
🖹 Beckhoff ER5xxx.xml	2022/6/20 8:53	XML 文档	273 KB
📄 Beckhoff ER6xxx.xml	2022/6/20 8:53	XML 文档	1,434 KB
🕋 Beckhoff ER7xxx.xml	2022/6/20 8:53	XML 文档	2,717 KB
📄 Beckhoff ER8xxx.xml	2022/6/20 8:53	XML 文档	207 KB
📄 Beckhoff EtherCAT EvaBoard.xml	2022/2/18 17:16	XML 文档	72 KB
📄 Beckhoff EtherCAT Terminals.xml	2022/2/18 17:16	XML 文档	54 KB
Beckhoff FB1XXX.xml	2022/2/18 17:16	XML 文档	49 KB
Beckhoff FCxxxx.xml	2022/2/18 17:16	XML 文档	21 KB
📄 Beckhoff FM3xxx.xml	2022/2/18 17:16	XML 文档	367 KB
📄 Beckhoff ILxxxx-B110.xml	2022/2/18 17:16	XML 文档	8 KB
SD700_ECAT_V1.2_G_20210326.xml	2021/11/12 8:50	XML 文档	183 KB
VEICHI_GL2000_Series_V1.0.xml	2022/9/19 9:46	XML 文档	38 KB
VEICHI_GL2011_test.xml	2022/9/19 9:25	XML 文档	8 KB
VEICHI SD710-ECAT Rev21 XML.xml	2021/11/12 8:50	XML 文档	179 KB
P VM-RTU-ECT_1.0.0.xml	2023/3/14 19:05	XML 文档	537 KB

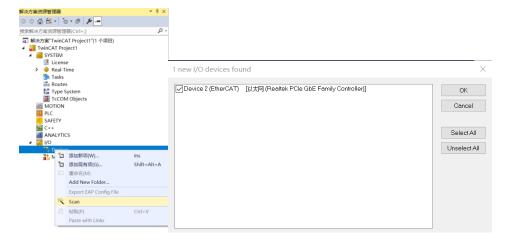
4.2.2 Create A New TwinCAT Project

Open the TwinCAT software to create a new TwinCAT project, connect the VM-RTU-ECT to the VM-1600END and power up and connect it to the Ethernet interface of the PC.



4.2.3 Scan the Devices

Ensure that the VM-RTU-ECT and VM-1600END are connected for device scanning, and follow the pop-up confirmation to make it run to OP.



Note: A new installation of TwinCAT software requires the installation of the real-time NIC driver before this step.

4.2.4 IO Monitoring and Commissioning

As shown in the figure below, scan to a 1600END expansion module under the device VM-RTU-ECT coupler for IO monitoring and debugging its input and output.

解决方案资源管理器 🔻 🕂	× TwinCAT Project2 ≄ ×						
G G 🟠 🗄 - To - @ 🏓 💻	Name	[X] Online	Туре	Size	>Add	In/Out	Linked to
搜索解决方案资源管理器(Ctrl+;)	🛫 📌 Digital input CH0-bit0		BIT	0.1	30.0	Input	
↓ 解决方案"TwinCAT Project2"(1 个项目)	🖷 😕 Digital input CH0-bit1		BIT	0.1	30.1	Input	
A TwinCAT Project2 (11) (1)	😕 Digital input CH0-bit2		BIT	0.1	30.2	Input	
SYSTEM	🕫 Digital input CH0-bit3		BIT	0.1	30.3	Input	
MOTION	🕫 Digital input CH0-bit4		BIT	0.1	30.4	Input	
PLC	🕫 Digital input CH0-bit5		BIT	0.1	30.5	Input	
SAFETY	😕 Digital input CH0-bit6		BIT	0.1	30.6	Input	
964 C++	😕 Digital input CH0-bit7		BIT	0.1	30.7	Input	
ANALYTICS	😕 Digital input CH1-bit0		BIT	0.1	31.0	Input	
▲ 🔄 I/O	😕 Digital input CH1-bit1		BIT	0.1	31.1	Input	
▲ ⁴ Devices	😕 Digital input CH1-bit2		BIT	0.1	31.2	Input	
 Device 1 (EtherCAT) 	🔁 Digital input CH1-bit3		BIT	0.1	31.3	Input	
1 mage 1 mage-Info	😕 Digital input CH1-bit4		BIT	0.1	31.4	Input	
 Image-Into SyncUnits 	Digital input CH1-bit5		BIT	0.1	31.5	Input	
 Syncomits Inputs 	😕 Digital input CH1-bit6		BIT	0.1	31.6	Input	
Outputs	Digital input CH1-bit7		BIT	0.1	31.7	Input	
InfoData	- Digital input offer bits					mpar	
 Box 1 (VM-RTU-ECT) Device TPDO Mapping parameter 		Digital input CH1-bit7	. TOUDEND INPL	it-bit mapi	ng . Modul	e I (VM-	1600END) . Box 1 (V
Device RPDO Mapping parameter							
 Device RPDO Mapping parameter Module 1 (VM-1600END) 							
Device RPDO Mapping parameter							
 Tevice RPDO Mapping parameter Module 1 (WM-1600END) I600END input-bit maping J600END input-bit Mapping Digital input CH0-bit0 Digital input CH0-bit1 							
 Therice RPDO Mapping parameter Thodule 1 (VM-1600END) Togital input CH0-bit0 Digital input CH0-bit1 Digital input CH0-bit1 Digital input CH0-bit2 							
 Tevice RPDO Mapping parameter Module 1 (WM-1600END) Digital input CH0-bit0 Digital input CH0-bit1 Digital input CH0-bit2 Digital input CH0-bit3 							
 Device RPDO Mapping parameter Module 1 (VM-1600END) Ca 1600END input-bit maping Digital input CH0-bit Digital input CH0-bit1 Digital input CH0-bit2 Digital input CH0-bit3 Digital input CH0-bit3 Digital input CH0-bit4 							
 Tevice RPDO Mapping parameter Module 1 (VM-1600END) Digital input CH0-bit0 Digital input CH0-bit1 Digital input CH0-bit1 Digital input CH0-bit3 Digital input CH0-bit3 Digital input CH0-bit4 Digital input CH0-bit4 Digital input CH0-bit4 							
 Device RPDO Mapping parameter Module 1 (Wn-1600END) Digital input CH0-bit0 Digital input CH0-bit1 Digital input CH0-bit2 Digital input CH0-bit3 Digital input CH0-bit3 Digital input CH0-bit3 Digital input CH0-bit3 Digital input CH0-bit4 Digital input CH0-bit4 Digital input CH0-bit4 Digital input CH0-bit5 Digital input CH0-bit5 Digital input CH0-bit5 							
 Device RPDO Mapping parameter Module 1 (M-100END) Digital input CH0-bit Digital input CH0-bit1 Digital input CH0-bit3 Digital input CH0-bit3 Digital input CH0-bit4 Digital input CH0-bit3 Digital input CH0-bit4 Digital input CH0-bit5 Digital input CH0-bit5 Digital input CH0-bit6 Digital input CH0-bit7 							
 Tevice RPDO Mapping parameter Module 1 (MM-1600END) Digital input CH0-bit maping Digital input CH0-bit 							
 Device RPDO Mapping parameter Module 1 (VM-1600END) Digital input CH0-bit Digital input CH1-bit Digital input CH1-bit Digital input CH1-bit 							
 Tevice RPDO Mapping parameter Todula 1 (Wr.1000END) Digital incott CHO-bit Digital input CHO-bit Digital input CHO-bit Digital input CHO-bit3 Digital input CHO-bit3 Digital input CHO-bit4 Digital input CHO-bit5 Digital input CHO-bit5 Digital input CHO-bit6 Digital input CHO-bit7 Digital input CHO-bit7 Digital input CHO-bit7 Digital input CHO-bit6 Digital input CHO-bit7 Digital input CHO-bit7 Digital input CHO-bit7 Digital input CHO-bit7 Digital input CHI-bit7 Digital input CHI-bit1 Digital input CHI-bit1 							
 Device RPOO Mapping parameter Module 1 (VM-1600END) Digital input CH0-bit0 Digital input CH0-bit1 Digital input CH0-bit2 Digital input CH0-bit3 Digital input CH0-bit3 Digital input CH0-bit3 Digital input CH0-bit4 Digital input CH0-bit3 Digital input CH0-bit4 Digital input CH0-bit4 Digital input CH0-bit5 Digital input CH0-bit6 Digital input CH0-bit6 Digital input CH0-bit7 Digital input CH0-bit6 Digital input CH1-bit7 Digital input CH1-bit1 Digital input CH1-bit1 Digital input CH1-bit2 Digital input CH1-bit3 							
 Tevice RPDO Mapping parameter Todula 1 (Wr.1000END) Digital incott CHO-bit Digital input CHO-bit Digital input CHO-bit Digital input CHO-bit3 Digital input CHO-bit3 Digital input CHO-bit4 Digital input CHO-bit5 Digital input CHO-bit5 Digital input CHO-bit6 Digital input CHO-bit7 Digital input CHO-bit7 Digital input CHO-bit7 Digital input CHO-bit6 Digital input CHO-bit7 Digital input CHO-bit7 Digital input CHO-bit7 Digital input CHO-bit7 Digital input CHI-bit7 Digital input CHI-bit1 Digital input CHI-bit1 							
 Device RPOO Mapping parameter Module 1 (VM-1606END) Digital input CH0-bit0 Digital input CH0-bit1 Digital input CH0-bit1 Digital input CH0-bit3 Digital input CH0-bit3 Digital input CH0-bit3 Digital input CH0-bit3 Digital input CH0-bit4 Digital input CH0-bit5 Digital input CH0-bit6 Digital input CH0-bit6 Digital input CH0-bit7 Digital input CH0-bit6 Digital input CH0-bit7 Digital input CH0-bit7 Digital input CH1-bit0 Digital input CH1-bit1 Digital input CH1-bit3 Digital input CH1-bit3 Digital input CH1-bit3 	错误列表	◎ 错误(6) ▲ 警告(W)	 消息(M) 	< Clear			