5ECR42

TwinCAT 快速启动指南

深圳锐特机电技术有限公司

第一章 TwinCAT3.0 安装

1.1 安装条件

操作系统: windows 7 以上, TwinCAT3.0 可以兼容 windows10 操作系统。

CPU: 英特尔 CPU

网卡: intel 网卡, 其他厂家网卡可以演示用, 同步控制精度很差

软件版本: TwinCAT V3.1.4022.29

About TwinCAT System

TwinCAT System Service v3.1.0.2306

TwinCAT v3.1.4022.29

OK

1.2 软件安装

正常安装完成以后,右下角有 TwinCAT 后台



第二章 TwinCAT3.0 设置

2.1 添加设备描述文件

按照图示将 Five Phase Stepper SeriesV202.xml 文件拷贝至 TwinCAT 相关路径

📙 🛃 📕 = EtherCAT				- 🗆 X	
文件 主页 共享	查看			~ (?
★ 第 固定到 复制 粘贴 2 粘 快速访问	御路径 恐快捷方式 部 な の な の な か の た の た の た の た の た の た の た の た の た の	□ 新建项目 · □ 轻松访问 · □ 轻松访问 · □ 轻松访问 · □ 星松访问 · □ 星性 ·	 ② 打开 ▼ 計 全部选 □ 编辑 □ 全部取 □ ○ 历史记录 	择 消 择	
剪贴板	组织	新建	打开 选择		
← → × ↑ 📕 < OS ((C:) > TwinCAT > 3.1 > Config > Io >	EtherCAT v ひ		搜索	
信捷	^ 名称	修改日期	类型	大小 '	^
总线步进	Beckhoff FCxxxx	2022/2/18 17:16	XML 文档	21 KB	
OneDrive	Beckhoff FM3xxx	2022/2/18 17:16	XML 文档	367 KB	
Chebrite	Beckhoff ILxxxx-B110	2022/2/18 17:16	XML文档	8 KB	
🍮 WPS网盘	ECR60V202_201226	2022/8/3 8:40	XML文档	91 KB	
此电脑	ECR86V202_201226	2022/8/3 8:40	XML文档	91 KB	
3D 对象	ECT60V202_201226	2022/8/3 8:40	XML 文档	92 KB	
- 视频	ECT86V202_201226	2022/8/3 8:40	XML文档	92 KB	
	Five Phase Stepper SeriesV202	2022/9/19 15:56	XML文档	181 KB	
■ 文料	RS100E_V302	2022/8/3 8:40	XML文档	135 KB	
	RS200E_V302	2022/8/3 8:40	XML 文档	135 KB	
	RS400E_V302	2022/8/3 8:40	XML文档	135 KB	
♪ 音乐	RS750E_V302	2022/8/3 8:40	XML文档	134 KB	
三桌面	RS1000E_V302	2022/8/3 8:40	XML文档	135 KB	Ĩ
	BOALCOOL MOOD	00001010.0.10	بالتفجف ومعاد	4.95.170	

2.2 新建项目及设置

2.2.1 新建项目,如下图:

Start Page - Microsoft Visual Studio					aunch (Ctrl+Q) 🔑 🗕 🗗 🗙
	Attach •		- J	·	
	New Project			? ×	Z
Solution Explorer	P Recent	.NET Fr	amework 4.5 🔹 Sort by: Default	🔹 🏥 🔚 Search Installed Terr 🔑 -	lotific ▼ ▲
	 Installed 	2	TwinCAT XAE Project (X TwinCAT Projects	Type: TwinCAT Projects	ations
201:	3 Shell A Templates Other Pro	ject Types		TwinCAT XAE System Manager Configuration	
(Inte	egrated) TwinCAT	Measurement			licrosoft Platforms
	TwinCAT	Projects			
Start	Samples				d Web
New F Open	Project.				
Open	from Source Cont				pment
		2	lick here to go online and find templates.		
Rece	nt <u>N</u> ame:	ECR60V200Test			
ECR60	AT Project 1 Solution name:	D:\TwCatworkspace\ ECR60V200Test	-	Browse	
ECT60	Test	Lentor Leorest		OK Cancel	if: Focus on Blazor d .NET product teams that
ECR60) Land	_	· · · · · · · · · · · · · · · · · · ·		
Tuine	AT Designet2	Visual Studio 2019	9 for Mac version 8.4 is now available		
Elle EDIT YIEW PROJECT Image: Solution Explorer Image: Solution Explorer Image: Solution Explorer (Ctrl+; Solution Explorer Image: Solution Explorer (Ctrl+; Solution 'ECR60V200Test' Image: Solution Explorer (Ctrl+; Solution 'ECR60V200Test' Image: Solution Explorer (Ctrl+; Solution 'ECR60V200Test' Image: Solution Explorer (Ctrl+; Image: Solution 'ECR60V200Test' Image: Solution Explorer (Ctrl+; </td <td>T BUILD DEBL</td> <td>IG TWINCAT</td> <td>TWINSAFE PLC</td> <td>IOOLS SCOPE WI Release</td> <td>NDOW <u>H</u>ELP TwinCAT RT (x6</td>	T BUILD DEBL	IG TWINCAT	TWINSAFE PLC	IOOLS SCOPE WI Release	NDOW <u>H</u> ELP TwinCAT RT (x6

2.2.2 添加主站网卡:

在 I/O > Devices 目录下,右键 "Add New Item",如下图所示



然后添加类型为 EtherCAT > EtherCAT Master,如下图:



点击 "OK" 以后, 需要选择使用的网卡:

none)	
玄牙网络连接 (Bluetooth Device (Personal Area Network)) VLAN (Qualcomm Atheros AR956x Wireless Network Adapter) N地连接* 1 (Microsoft Wi-Fi Direct Virtual Adapter #2)	Cancel
人太网 (Realtek PCIe GBE Family Controller) 5.地连接*2 (Microsoft Wi-Fi Direct Virtual Adapter)	Unused
	OAII
	Holn

此处,可能一些电脑不能显示正确的网卡,可以先直接选择 "none"。设置完成后,如下图所示:



2.2.2 安装网卡驱动



通常安装完驱动以后,再点击"Search"按钮,就可以找到网卡了,如下图所示:

ECR60V200Test - Microsoft Visual Studio	
FILE EDIT VIEW PROJECT BUILD DEB	JG TWINCAT TWINSAFE PLC TOOLS SCOPE WINDOW HELP
0-0 🔀 - 🗂 - 🖆 🖬 🕌 🗶 🗗 🗇	🄊 - 🔆 - 🕨 Attach 💦 Release - TwinCAT RT (x64) - 👂 👘 👘 👘
🗄 🔝 🧧 🌫 🔨 🎯 🍡 < Local>	
Solution Explorer 🔹 👎 🗙	ECR60V200Test 😕 🗙
○ ○ ☆ [™] ●	General Adapter EtherCAT Online CoE - Online
Search Solution Explorer (Ctrl+;)	
Solution 'ECR60V200Test' (1 project)	
ECR60V200Test	
MOTION	Description: 以太网 (Realter PCIe GBE Family Controller)
PLC	Device Name: \\DEVICE\UDSDDR822-PiCA-4587-AF31-14C57FRFE(4A)
SAFETY	
	PCIBus/Slot: Search
Devices	MAC Address: 4c ed fb 0f b6 10 Compatible Devices
Device 1 (EtherCAT)	IP Address: 0.0.0.0 (0.0.0.0)
Mappings	
	Device Found At X
	盖牙网络连接 (Bluetooth Device (Personal Area Network))
	Adap + + + + + + + + + + + + + + + + + + +
	Urst ki Headlak PCIe dBE Family Controller) Autober 2010 (State Controller) Autober 2010 (State Controller) (Outober 2010 (State Controller)
	Number t
	Help
	a

2.3 查找驱动器

将驱动器连接好电源,电机与网线。然后在 Device 1 条目中右键,选择"Scan",如下图:



正常情况下,软件提示发现 5ECR42,并提示是否增加一个对应的运动轴 (NC),如下图所示:



点击 "OK"

此时软件自动添加了一个 "Motion > Axes > Axis 1" 并关联到驱动器 "Drive 1(5ECR42)"

项目变成如下所示:

,

Image Image <td< th=""><th>解决方案资源管理器 ▼ ↓ ×</th><th>TwinCAT Project8</th><th>-¤ ×</th><th></th><th></th><th></th><th></th><th>- 雇性</th><th></th><th>- ↓ ×</th></td<>	解决方案资源管理器 ▼ ↓ ×	TwinCAT Project8	-¤ ×					- 雇性		- ↓ ×
Personal Processing Control Personal Processing Control Personal Processing Control Personal Processing Processin	0 0 A H - 10 - 1 / -	Conoral Settings	Daramatar Dur	omics Onlin	- Euroctions Cours	ing Componsation		Axis	3 Continuous Axi	ş
Image Image </td <td>捜索解決方案资源管理器(Ctrl+;) ・ ・ ・ ・ ・ ・ ・ ・ ・ ・ ・ ・ ・ ・ ・ ・ ・ ・ ・</td> <td>General occurgs</td> <td></td> <td>arries orim</td> <td>ie runetions coup</td> <td>ing compensation</td> <td>-</td> <td>8 g</td> <td>4 50</td> <td></td>	捜索解決方案资源管理器(Ctrl+;) ・ ・ ・ ・ ・ ・ ・ ・ ・ ・ ・ ・ ・ ・ ・ ・ ・ ・ ・	General occurgs		arries orim	ie runetions coup	ing compensation	-	8 g	4 50	
Save in com File Motion	M 解决方案"TwinCAT Project8"(1 个项目)	Link To I/O		Drive 1 (5E	CR42)			🖯 Pe	rsistent	
▶ SYSTEM Link 10 PR.L ▲ MK 07 ENK Axis 13 AF ▲ MK 07 ENK Axis 13 VB Wint: mm ● MK 07 ENK Display (Only) ● MK 07 ENK Position: ● MK 07 ENK ● MK 07 ENK ● MK 07 ENK ● MK 07 ENK ● MK 07 ENK	🔺 🚮 TwinCAT Project8	Link To DLC						Sa	ve in own File	False
▲ MOTION ▲ MOTION ▲ MOTION ▲ MOTION ▲ No.Task 13AF ● N.C.Task 15WB ● Motion: ● Tables ● Objects ● Motion: ● Motion: ● Notask ● Notask ● Motion: ● Notask	SYSTEM	LINK TO PEC						日余	 原	4.4.2
	MOTION		CAN DC402/	Des Els MOD	742 (a a TabaaCAT C	- C Dailyan		(N	ame)	Axis 3
Image Image<	 MC-Task 1 SAF 	Axis Type:	CANopen DS402/	Profile MDP	742 (e.g. EtherCAT C	be brive)		Dis	mType	22
Junit: Imm Display (Only): Position:: Posit	DC-Task 1 SVB							Pat	thName	TINC^NC-Task 1 SAF^Ax
I adues	j∓ image	Unit:	mm v	Display (Or	ily)					
Image: Solution Image: Soluti				Position:	μm	Modulo				
✓ Axis 3 ✓ ● Chr ● ● Drive	A the Aves			N. 1						
Pic Drive b Ctrl Position: Velocity: Acceleration: Jerk: Diputs Position: Velocity: Acceleration: Jerk: Diputs Position: Velocity: Acceleration: Jerk: Diputs Position: Velocity: Acceleration: Jerk: PicC SAFETY Axis Cycle Time / Access Divider Divider: 1 Divider: 1 Cycle Time (ms): 2.000 Modulo: 0 Powces Powce (EtherCAT) Image-info Modulo: 0 0 0 0 SyncUnits > InfoData > Chast 15Ar - Device 1 (EtherCAT) 1 Persistent Place Weider Mediate Image-info Yes Net Yes Net Persistent	🔺 🖿 Axis 3			velocity:	mm/min					
> all Drive > all Drive <	P 🗱 ERC									
● Inputs ● Outputs ● Outputs ● Outputs ● Construct ● Construct <tr< td=""><td>▶ ⇒ Drive</td><td>Result</td><td>11000-0100</td><td></td><td></td><td>102.00</td><td></td><td></td><td></td><td></td></tr<>	▶ ⇒ Drive	Result	11000-0100			102.00				
 ▶ in liputs ▶ Outputs PLC SAFETY C++ ANALVICS ▲ Xis Cycle Time / Access Divider Divider: 1 C, Cycle Time / Access Divider Divider: 1 C, Cycle Time / Access Divider Divider: 1 C, Cycle Time / Access Divider Wodulo: 0 1 Divider: 1 C, Cycle Time / Access Divider 1 Divider: 1 C, Cycle Time / Access Divider 1 Divider: 1 C, Cycle Time / Access Divider 1 Divider: 1 Divider: 1 Divider: 1 Divider: 1 Divider: 1 Divider: 2.000 1 Divider: 1 Divider: 2.000 1 Divider: 1 Divider: 2.000 1 Divider: 1 Divider: 2.000 1 Divider: 2.000 3.000 3.000<td>🔤 Ctrl</td><td>Position:</td><td>Velocity:</td><td></td><td>Acceleration:</td><td>Jerk:</td><td></td><td></td><td></td><td></td>	🔤 Ctrl	Position:	Velocity:		Acceleration:	Jerk:				
● Outputs ● C SAFETY SAFETY ▲ Xis Cycle Time / Access Divider Divider: 1 Divider:	Inputs	mm	mm/s		mm/s2	mm/s3				
PLC SAFETY CASETY CASETY Axis Cycle Time / Access Divider Divider: Divider: <td>Outputs</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	Outputs									
Axis Cycle Time / Access Divider Divider: ① ② Cycle Time (ms): 2.000 Axis Cycle Time / Access Divider Divider: ① ③ Cycle Time (ms): 2.000 Modulo: ② ③ Modulo: ③ ③ Modulo: ③ ③ Modulo: ③ ③ Modulo: ③ ③ Modulo: ④ ④ Modulo: ④ Modulo: ④ ④ Modulo: ④ ④ Modulo: ④ ④ Modulo: ④ ④ Modulo: ④ ④ Modulo: ④ ④ Modulo: ④ Modulo: ④ ④ Modulo: ④ M	PLC SALETY									
Wider: 1 Cycle Time (ms): 2.000 Modulo: 0	SALETT	Axis Cycle Tim	ne / Access Divider	proved		-				
▲ 望 VO ▲ 管 Devices ▲ 管 Device1 (EtherCAT) ● Image-Info ● ② SyncUnits ● ③ InfoOata ● ◎ InfoOata ● ◎ InfoOata ● ◎ InfoOata ● ◎ ◎ □ ◎ ◎ ◎ ◎ ◎ ◎ ◎ ◎ ◎ ◎ ◎ ◎ ◎ ◎ ◎ ◎	ANALYTICS	Divider:	1	÷	Cycle Time (ms):	2.000				
Powices Powices Powices Powice P	🔺 🕎 I/O	Modulo	0							
↓ ● Device 1 (EtherCAT) ● Image-info ● Imputs ● Imputs ● Imputs ● InfoData ● Info	🖌 📆 Devices	would.	0	*						
「Image 「Image-info シ SyncUnits シ Citation シーン シ Citation シーン	 Device 1 (EtherCAT) 									
	🚰 Image									
ト ② (Byputs ト ③ Inputs ト ④ Outputs ト ④ Outputs ト ④ InfoData ト ⑤ InfoData ト ⑤ InfoData ト ⑤ NC-Task 1 SAF - Device 1 (EtherCAT) 1 ↓ 能決力能率的構成 [DN (Wights [DN (Wights (M) (Wights	📴 Image-Info	错误列表						- □ ×		
P → mputs D → Outputs D → Drive 1 (SECR42) A → Drive 1 (SECR42) A → NC-Task 1 SAr - Device 1 (EtherCAT) 1 → 部 (Mappings) → (Map	SyncUnits		• 😧 错误(E) 1 警告	(W) 1 消息(M)	X Clear	** 搜索错误列表	P -		
→ Cutapais → InfoData → Drive 1 (5ECR42) ▲ Mappings ▲ NC-Task 1 SAF - Device 1 [EtherCAT] 1 ↓ 翻波频表 輸出 State State Stat	P inputs	-								
→ L minotation → Drive 1 (5ECR42) → Y Mappings →	b InfoData									
Mappings Monopings Monoping	Drive 1 (5ECR42)									
	Mappings							Persi	istent	
解决方案资源等期 器 团队资源领理器	NC-Task 1 SAF - Device 1 (EtherCAT) 1 🚽	错误列表输出								
	解决方案资源管理器 团队资源管理器							属性	工具箱	

2.4 驱动器设置

上述步骤成功后,此时驱动器处于"PREOP"状态,驱动器中间的绿色 LED 在快速闪烁。



2.4.1 细分与电流设置

步进电机工作最重要的参数为工作电流及细分,参数设置如下:

解决方案资源管理器 ▼ 및 ×	TwinCAT Project8 🕫 🗙	雇性 ▼ ₽×
○ ○ 🏠 H - Ĭo - @ 🎾 🛥	General EtherCAT_DC_Process Data_PIcStartup_CQE - Online^	Drive 1 (5ECR42) 5ECR42(COE) -
搜索解决方案资源管理器(Ctrl+;) ・ ・	denetal exterent be indepidual ne startup onnie onnie	111 g. ×
解决方案"TwinCAT Project8"(1 个项目)	Update List 🗌 Auto Update 🖉 Single Update 🗌 Show Offline Data	🗆 Persistent
4 🧧 TwinCAT Project8	Advanced	Save in own File False
SYSTEM	Autoricea	回 宋坝 (Name) Drive 1 (5ECR42)
	Add to Startup Online Data Module OD (AoE Port): 0	Disabled Enabled
		ItemType 5
SAFETY	index Name Flags Value Unit	PathName TIID^Device 1 (EtherCAT
64 C++	totsio txrbo assign > 5 < end totsio txrbo assign > 3 < end totsio txrbo assign > 3 < end totsio txrbo assign > 3 < end totsion = 1 <	
ANALYTICS	TODE OF OUTPUT Parameter > 32 <	
▲ 🔀 I/O	2000 Peak Current RW P 0x03E8 (1000)	
 Devices Device 1 (Cther(AT)) 	2001 Motor Resolution RW P 0x2710 (10000)	
	2002 Idle Time RW P 0x03E8 (1000)	
Image-Info	2003 Idle Current Percentage RW P 0x0032 (50)	
SyncUnits	2005:0 Outputs Function RW P > 2 <	
Inputs	2006 Outputs Polarity RW P 0x0003 (3)	
Outputs	2007.0 inputs function RWP > 6 <	
(Le Drive 1 (EECD42)	2009 Filter Time RW P 0x6400 (25500)	
Transmit PDO 1	200A Soft lock Time BWD 0x03E8 (1000)	
Receive PDO 1	Name Online Type Size >Addr In/Out User Linked to	
WcState	📌 Status Word X 0 UINT 2.0 71.0 Input 0 nState1, nState2	
🕨 🔜 InfoData	P Modes of Ope X 0 SINT 1.0 73.0 Input 0 nState5. In. Inputs. D	
Mappings	Position Actual X 0 DINT 4.0 74.0 Input 0 nDatain1 . In . Inputs	
IC - Task 1 SAF - Device 1 (EtherCAT) 1 NC Task 1 SAF - Device 1 (EtherCAT) Info	描误列表 ▼□×	
INC-TASK T SALE DEVICE T (Effective) Into	 ▼ ● S 错误(E) ▲ 警告(W) ● 消息(M) × Clear 単 提案错误列表 	
		Persistent
	出版の目的では、「「「」」では、「」」、 「」」、 「」」、 「」、 「」、 「」、 「」、 「」、 「」、	
解决方案资源管理器 团队资源管理网		屋性 工具始
	Precontrol word x U UNI 20 710 Outo 0 nCtrl1 nCtrl2	AND L LIVET

0x2000 对象为步进电机运行的正弦峰值电流,单位为 mA,用户需要依据负载设置合适的电流

值。不要超过电机的额定电流。

0x2001为电机运行一转所需要的脉冲数。

2.4.2 保存参数

在对象 0x1010 的第一个子索引 (0x1010:01) 中,写入"1",将会把参数保存至驱动器。

注意:在保存过程中,电机将短暂停止输出力矩,需要注意安全。操作如下图所示:

解决方案资源管理器 ▼ 早 ×	TwinCAT Project8 # X	- 届性	Ψ×
○ ○ ☆ # - `⊙ - ₽ ≯ -	General EtherCAT DC Process Data Plc Startup CoE - Online online	Drive 1 (5ECR42) 5ECR42(COE)	•
搜索解决方案资源管理器(Ctrl+;)			
 解決方案"TwinCAT Project8"(1 个项目) 	Update List Auto Update 🖉 Single Update 🗌 Show Offline Data	Savo in own File	
TwinCAT Project8	Advanced	日 杂版	
SYSTEM		(Name) Drive 1 (5ECR42)	
MOTION	Add to Startup Online Data Module OD (AGE Port): 0	Disabled Enabled	-
	Index Name Flow Volum 11ab	ItemType 5	
SAFETY	index Name riags value onit	PathName TIID^Device 1 (Ethe	erCAT
6 C++	1009 Fadrware version RO 100		
ANALYTICS	100A Software version RV 1000		
🔺 🚾 1/O	1010:01 Save all parameters BW 0x0000.(0)		
 Devices 	H 101:0 Resta		
 Device 1 (EtherCAT) 	Holiso Identi Set Value Dialog ×		
image	# 10F1:0 Error		
Supellaite	TIPE Times Dec: 1 OK		
	# 1600:0 RXPD Hav: 0x0001 Capcel		
Outputs	₽ 1601:0 RXPD	4	
D InfoData	B 1602:0 RXPD Float:		
▲ ▲ Drive 1 (5ECR42)	⊕ 1A00:0 TXPD		
Transmit PDO 1		-	
Receive PDO 1	Name Oi Bool: <u>0</u> <u>1</u> Hex Edit		
WcState	ate2		
P 🛄 InfoData	Provides of Ope X 0 Binary: 0100 22 imputs 0		
Mappings	Bit Size: 01 08 016 032 064 02	4	
C-Task 1 SAF - Device 1 (EtherCAT) Info	High the second		
	- ● · · · · · · · · · · · · · · · · · ·	•	
		Perristant	
	頃氏が衣 初田		
解决方案资源管理器 团队资源管理器	Control Word X 0 LIINT 20 710 Outp 0 nCtrl1 nCtrl2		
□ 就绪		↑ 添加到源代码管	理 🔺

至此,步进电机的基本设置已经完成,可以接入工作模式。

2.5 运动控制轴设置

2.5.1 编码器设置

步进电机通常并没有编码器反馈,此处的设置任然借用虚拟的编码器设置,依据驱动器的细分及 机械传动机构,设定每一个脉冲对应电机运行的距离,如下图:

Solution Explorer 👻 👎 💈	× ECR60	V200Test ≄ ×				
○ ○ ☆ 'o - ♂ ₽	Gen	eral NC-Encoder Parameter Time Compensation Onli	ne			
Search Solution Explorer (Ctrl+;)	-					
Solution 'ECR60V200Test' (1 project)	<u>^</u>	Parameter				
ECR60V200Test		Encoder Evaluation:				
♦		Invert Encoder Counting Direction	FALSE		В	
MOTION		Scaling Factor Numerator	0.0001		F	mm/INC
NC-Task 1 SVB		Scaling Factor Denominator (default: 1.0)	1.0		F	
1 Image	1	Position Bias	0.0		F	mm
Tables		Modulo Factor (e.g. 360.0°)	360.0		F	mm
A 🚔 Axes		Tolerance Window for Modulo Start	0.0		F	mm
A 🚔 Axis 1		Encoder Mask (maximum encoder value)	0xFFFFFFFF		D	
A 👯 Enc		Encoder Sub Mask (absolute range maximum value)	0x000FFFFF		D	
P Gutputs		Reference System	'INCREMENTAL'	·]	E	
▷ ➡IJ Drive		Limit Switches:				
tas Ctrl		Soft Position Limit Minimum Monitoring	FALSE	·]	В	
Outputs		Minimum Position	0.0		F	mm
PLC		Soft Position Limit Maximum Monitoring	FALSE	1	В	
SAFETY		Maximum Position	0.0		F	mm
C++	+	Filter:				
A The Devices	+	Homing:				
 Device 1 (EtherCAT) Image 	•	Other Settings:				

2.5.2 设置运动参数

设定好运动速度,加速度等参数,通常步进电机的加减速及最大速度较低,最大速度不超过

3000RPM。

olution Explorer	÷ ₽ × ECR	60V200Test 👻 🗙				
0 0 🔂 10 - 01 🖉 🗕	G	eneral Settings Parameter Dynamics Online Fu	nctions Coupling Compensation			
earch Solution Explorer (Ctrl+;)	۹- م					
Solution 'ECR60V200Test' (1 project)	-					
ECR60V200Test		- Maximum Dynamics:				
		Reference Velocity	2200.0		F	mm/s
MOTION MOTION MOTION		Maximum Velocity	2000.0		F	mm/s
NC-Task 1 SVB		Maximum Acceleration	15000.0		F	mm/s2
image		Maximum Deceleration	15000.0		F	mm/s2
Tables		- Default Dynamics:				
A Axes		Default Acceleration	1500.0		F	mm/s2
🔺 陆 Axis 1		Default Deceleration	1500.0		F	mm/s2
A Sec		Default Jerk	2250.0		F	mm/s3
Outputs		- Manual Motion and Homing:				
Drive		Homing Velocity (towards plc cam)	30.0		F	mm/s
tas Ctrl		Homing Velocity (off plc cam)	30.0		F	mm/s
P inputs		Manual Velocity (Fast)	600.0		F	mm/s
I PLC		Manual Velocity (Slow)	100.0		F	mm/s
SAFETY		Jog Increment (Forward)	5.0		F	mm
C++		Jog Increment (Backward)	5.0		F	mm
Devices		+ Fast Axis Stop:				
 Device 1 (EtherCAT) 		+ Limit Switches:				
image		Monitoring				
 Image-Info SyncUnits Inputs 	- 81	Download Upload Expand All	Collapse All Select A	Ш		
Outputs						

2.6 激活设置及运动测试

2.6.1 激活

按照下图,激活设置:

ECR60V200Test - Microsoft Visual Studio		
FILE EDIT VIEW PROJECT BUILD DEBUG TWINCAT	TWINSAFE PLC TOOLS SCOPE WINDOW HE	ELP
◎ - ◎ 18 - 1 - 1 = 2 2 米 日 台 9 - C - ▶.	Attach • Release • Twind	CAT RT (x64) 🔹 🎜
💽 🔝 🧟 🗶 🎯 🐚 🐂 🛛 <local> 🔹 🗸</local>		
Solution Explorer • $F imes ECR6$	0V200Test + ×	
	neral Settings Parameter Dynamics Online Functions	Coupling Compensation
Search Solution Explorer (Ctrl+;)		
Solution 'ECR60V200Test' (1 project)		Offline Value
▲ 🚮 ECR60V200Test	Maximum Dynamics:	
SYSTEM	Reference Velocity	2200.0
MOTION	Maximum Velocity	2000.0
NC-Task 1 SVB	Maximum Acceleration	15000.0
📲 Image	Maximum Microsoft Visual Studio	×
Tables	Default Dy	
Objects	Default Ac	
A Axis 1	Activate Configuration (Old Configurations will be overw	ritten!)
🔺 👯 Enc	Default lo	
Inputs		
Outputs	Manual Ma 确定	取消
	Homing	
Inputs	Homing Velocity (off plc cam)	30.0
Outputs	Manual Velocity (Fast)	600.0
	Manual Velocity (Slow)	100.0
SAFETY	Jog Increment (Forward)	5.0
A 🛃 1/0	Jog Increment (Backward)	5.0
A 📲 Devices	- Fast Axis Stop:	
Device 1 (EtherCAT)	- Limit Switches:	

此时提示是否进入"Run Mode"



点击"确定"

2.6.2 电机使能

按照下图,设置驱动器:



点击"Set"后,如下图,选择"ALL":



此时使能电机,这一步驱动器将完成锁轴,参数自识别功能,然后进入等待命令状态。

2.6.3 运动测试

按照下图提示, 点动控制电机运行

	0.2453	Setpoint Position: mm] 0.2453	
ag Distance (min/max): mm] Av	ctual Velocity: [mm/s] 0.0000	Setpoint Velocity: [mm/s] 0.0000	
Dverride: [%] To 100.0000 %	otal / Control Output: [%] 0.00 / 0.00 %	Error: 0 (0x0)	
Status (log.) ☑ Ready	Status (phys.) □ Coupled Mode ☑ In Target Pos. ☑ In Pos. Range	Enabling Controller Set Feed Fw Feed Bw	
Controller Kv-Factor: [mm/s, 1	/mm] Reference Ve	locity: [mm/s]	
arget Position:	[mm] Target Veloci ↓ 1	ty: [mm/s]	执行指定速度和位置
F1 F2 F3		Image: Relation of the second seco	
	Page 1		

按照下图设置,可以让电机在0和100mm的位置之间以10mm/s的速度来回正反转测试:

neral EtherCAT DC	Process Data Plc Startup	CoE - Onlir	ne Online NC: Online NC: Functions
	0.2453	3 Se	etpoint Position: [mm]
Extended Start			0.2400
Start Mode:	Reversing Sequence	~	Start
Target Position1:	0	[mm]	Stop
Target Velocity:	10	[mm/s]	
Target Position2:	100	[mm]	
Idle Time:	0.2	s	Last Time: [s]
			0.24800
Raw Drive Output			
Output Mode:	Percent	~	Start
Output Value:	0	[%]	Stop
Set Actual Position			
Absolute	~ 0		Set
Set Target Position			
Absolute	v 0		Set

联系 RTELLIGENT

锐特总部

深圳市宝安区固戍南昌路庄边工业园 B 栋 3 楼

邮编: 201107

- 电话: +86 (0)755 29503086
- 传真: +86 (0)755 23327086
- 邮箱: sales@szruitech.com

华东办事处

江苏省苏州市昆山市开发区人民南路 888 号汇杰大厦 A604

联系人: 唐女士

电话: 18124741232

邮箱: saleshd03@szruitech.com

山东办事处

山东省济南市槐荫区中建锦绣广场二期 1-1912

联系人: 鹿先生

电话: 13854109911

邮箱: sales06@szruitech.com