

CiA[®]、CANopen[®]是CAN in Automation e.V. 的注册商标。



BLV系列 R型



研华科技股份有限公司 AMAX-5570(软件: CODESYS IDE SP1820)

CANopen通信连接和简单操作的流程。



Advantech AMAX-5570 CANopen+BLV-R

最后更新 2023年8月





Advantech AMAX-5570 CANopen+BLV-R

- (1)实际建构系统时,除了确认构成系统的各机器、设备的规格外,机器设备的使用方式须考虑相对 于额定及性能具备充足的裕度,并采取万一故障时也能将危险减到最低的安全回路等安全对策。
- (2)为了安全地使用系统,请取得构成系统的各机器、设备的手册或使用说明书,并仔细确认「安全 注意事项」、「安全要点」等安全相关注意事项及文件内容。
- (3) 系统应符合的规格及法规或规范,请客户自行确认。
- (4) 未获东方马达总公司允许,禁止复印、复制、转发本数据之部分或全部内容。
- (5)本数据记载内容,为 2023 年 8月时之最新信息。本数据内容可能因产品改良而未经预告即径行 变更。
- (6)本数据仅记载建立机器通讯连接的步骤,并无记载机器个别操作、设置及配线方式。通讯连接步骤以外的详细内容,请参阅对象产品的使用说明书。

适用产品和使用说明书

■适用产品

无刷马达 BLV系列 R型

■准备

请准备使用说明书和用户手册。 可至东方马达网站下载。 请根据需要准备相关使用说明书。

1	HP-5144B	无刷马达 BLV系列 R型 设置、连接篇
2	HP-5148B	无刷马达 BLV系列 R型 功能篇
3	HP-5140E	Brushless Motor BLV Series R type Driver CANopen Communication Profile



无刷马达 BLV系列 R型



移动自动化对应产品



Advantech AMAX-5570 CANopen+BLV-R





Advantech AMAX-5570 CANopen+BLV-R

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	DESYS IDE SP1820		
ME	EXE02 Ver.4	产品	型号
mm <u>prop</u> mm		CPU单元 [※]	AMAX-5570 + CODESYS Control RTE (Advantech x86 控制器)
Ethernet	t电缆线	CANopen通讯口 [※]	AMAX-5570 build-in (CAN bus通讯口1)
	通讯电缆线	程序编译软件	CODESYS IDE SP1820 (Advantech PLCopen Library)
	CANopen	通讯电缆	通讯电缆线请使用 CAN-BUS 电缆线
	请在总线两端连接终端 由阳	BLV系列 R型	BLVD-KRD
	モロ (120Ω 1/4 W 以上) 未附属终端电阻	支持软件	MEXE02 Ver.4 ※请使用最新版本
			※透过Advantech以下商品与配件来启用CODESYS 软件 以及CANopen通讯口。
AMAX-5570			年情请见』(补允)天士配件』。 ● ・AMAX-5570 主机本身即有CAN bus通讯口
通讯用电源			・AMAX-5580 需加购配件AMAX-5495 (CANbus PCle Expansion Module)
使用CAN 通讯时,			本设置手册是以AMAX-5570为例。
请务必将连接通讯用	电源。 无刷马达 BLV系列 R型	平行轴减速机	Π
	BLVD-KRD		

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BLV-R驱动器的Node-ID设定



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■在MEXEO2设定Node-ID

在MEXE02设定BLV-R驱动器的Node-ID。 以下是设定Node-ID 1的例子。

- 1. 启动MEXE02。
- 2. 使用USB线,连接PC和BLV-R驱动器。
- 3. 向BLV-R驱动器, 输入电源。
- 4. 产品选择。

MEXE02					_		\times	
檔案(<u>F</u>) 編輯(E) 査看(⊻)	通訊(<u>C</u>)	工具(<u>T</u>)	支援(<u>S</u>)	幫助(<u>H</u>)			
1 💼 1					¢		中文 •	
(a1) MEXEO2	2					×	•	
								_
	n Èn			×				
	產品選擇		選擇檔案					
							:	

☑ 新增1 BLV Rtype : Standard/Geared Motor - MEXE02		- 🗆	×
$File(\underline{F}) = Edit(\underline{F}) = View(\underline{V}) = Communication(\underline{C}) = Tool(\underline{T}) = Support$	<u>S</u>) Help(<u>H</u>)		
	:- 品	• 🔹 📑 📲 🔺	
System of Units Customize Wizard			
🖓 (a5) Navigation 🗙 🧵 (a2) 產品選擇 🗙 🔻	🌯 (m1) Communication setting	×	•
▽ 連接到PC的產品 争	Start the simple setting.		^
COM4: BLV Rtype - Standard/Geared Motor	Communication function		_
	ndition	COMM-I/F mode selection: -	
*如果无显示,请再次检查	连接和电源。	OFF * To communicate,	the
		Communication power supply lost action	on: I
BLV Rtype - Standard/Geared Motor	ID-SEL(Applicable value)	0 ID-SEL0	
AZ 脈波列輸入/內藏定位機種/附RS485通訊脈波序列輸入 - 標準/減	ID-SEL(Present value)	0 ID-SEL0	
AZ EtherCAT對應 - Motor/Actuator 10000 P/R			
BLH RS-485通訊型 - 標準/減速機馬達	CANopen Communication setting		
▽ 産品清單			>
系列 產品 馬達·電動模組		×] -
AZ BLV Rtype Standard/Geared Motor			^
AZ mini AZ 多軸 AZX	初始值		
CVD BLE2	設定單位		
	反映		
[] 開新檔案			~



BLV-R驱动器的Node-ID设定

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🖸 新增1* BLV Rtype : Standard/Geared N	Notor - N	IEXE02		-	- 🗆 🛛			
File(F) Edit(E) View(V) Communio	ation(C)	Tool(T) Supp	ort(S) Help(H)					
	1		M1:- 明產品	- 🚎 OFF 📲 → 🛛 📲	● 繁体中文			
System of Units Customize Wizard	1							
📮 (a5) Navigation 🛛 🗙 🔻		(p3) Communicatio	on setting (Modbus/CANopen)		×			
Currently open window	1	[NET-ID:497]	Communication I/F mode selection	4 : CANopen(CAN) & Modbus RTU(RS-485 Communication)				
	2	[NET-ID:479]	Communication power supply lost action	-1 : Disable				
(p3) Communication settin	3	[NET-ID:17152]	CANopen Node-ID	ID=1				
	4	[NET-ID:17153]	CANopen Bitrate	500 kbps				
	5	[NET-ID:2540]	CANopen EDS	1 : EDS Version 2.00				
✓ Parameter	6	[NET-ID:495]	RS-485 communication termination resistor	Follow communication ID (Enable when the active communication ID	is 4)			
Basic function	7	[NET-ID:2528]	RS-485 frame monitor target ID	ID=1				
(p1) Basic setting and operati	8	[NET-ID:2496]	Slave address (Modbus)	Follow ID-SEL input (ID = ID-SEL value + 1)				
🖉 (p3) Communication setting (9	[NET-ID:2497]	Baudrate (Modbus)	230400 bps				
	10	[NET-ID:2498]	Byte and word order (Modbus)	0 : Even Address-High Word & Big-Endian				
(p5) CANopen objects		[NET-ID:2499]	Communication parity (Modbus)	1 : Even				
⊢//O function	12	[NET-ID:2500]	Communication stop bit (Modbus)	0 : 1 bit				
🛛 🖾 (p7) I/O action and function 🗡	13	[NET-ID:2501]	Communication timeout (Modbus)	0 ms				
A 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	14	[NET-ID:2502]	Communication error detection (N s)	3 times				
✓ Monitor	ित्त	(37) 绕動信白	- · · · · · · · · · · · · · · · · · · ·		×			
📮 Simple setting 🔨 🔨		(ai) segulas	ss setting (1)		^			
(m1) Communication setting	Set	ts NET-ID of comma	ands or parameters to be registered in the indirect r	eference addresses.				
in-Operation 初始値								
B-Monitor 0								
—————————————————————————————————————								
(m4) Status monitor								
www.www.com/one-com/com/com/com/com/com/com/com/com/com/								

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BLV-R驱动器的Node-ID设定

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将数据写入驱动器。

🖸 新增1* BLV Rtype : Standard/Geared M	lotor - N	/IEXE02		-	- 🗆 🗡				
File(E) Edit(E) View(V) Communication(C) Tool(T) Support(S) Help(H)									
💼 兰 🖶 🧰	1			执行数据的写入					
System of Units Customize Wizard						,			
🕒 (a5) Navigation 🗙 🔻		(p3) Communicatio	n setting (Modbus/CANopen)		× •				
	1	[NET-ID:497]	Communication I/F mode selection	4 : CANopen(CAN) & Modbus RTU(RS-485 Communication)	^				
(n3) Communication settin	2	[NET-ID:479]	Communication power supply lost action	-1 : Disable			_		
(ps) contrained on section	3	[NET-ID:17152]	CANopen Node-ID	ID=1					
	4	[NET-ID:17153]	CANopen Bitrate	500 kbps					
	5	[NET-ID:2540]	CANopen EDS	1 : EDS Version 2.00					
✓ Parameter	6	[NET-ID:495]	RS-485 communication termination resistor	Follow communication ID (Enable when the active communication ID i	s 4)		•		
Basic function	7	[NET-ID:2528]	RS-485 frame monitor target ID	ID=1					
(p1) Basic setting and operati	8	[NET-ID:2496]	Slave address (Modbus)	Follow ID-SEL input (ID = ID-SEL value + 1)					
(p3) Communication setting (9	[NET-ID:2497]	Baudrate (Modbus)	230400 bps			出物地区とつけら		
- 🛃 (p4) Modbus-Share	10	[NET-ID:2498]	Byte and word order (Modbus)	0 : Even Address-High Word & Big-Endian			ヨ奴1/1日八元1/14月,		
(p5) CANopen objects		[NET-ID:2499]	Communication parity (Modbus)	1 : Even			■ 重新连接由源。		
□-I/O function	12	[NET-ID:2500]	Communication stop bit (Modbus)	0:1 bit			王机仁文七标。		
👘 🖉 (p7) I/O action and function 🗡	13	[NET-ID:2501]	Communication timeout (Modbus)	0 ms					
< >	14	[NET-ID:2502]	Communication error detection (Ms)	3 times					
✓ Monitor	ার	(a7) 參數信自	· · · · · · · · · · · · · · · · · · ·		× •				
Simple setting	Indir	ect reference addres	ss setting (1)		^				
m (ml) Communication setting Operation	Se	ts NET-ID of comma	nds or parameters to be registered in the indirect r	eference addresses.					
(m2) Remote operation	- Service operation 初始値								
- Monitor	Monitor								
(m3) Unit information monito	設定								
(ms) D-I/O, R-I/O monitor									
(m6) Internal I/O monitor	l Im	mediately							
>	- All rain	ante com			~				

预先准备

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获取 EDS 文件

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导入EDS File

CODESYS



Advantech AMAX-5570 CANopen+BLV-R

打开CODESYS V3.5软件,并汇入EDS檔。(此例软件版本为V3.5 SP18 patch2)



Image: Start Page Image: Start Page: Star	ľ
Devices 	
Devices	
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Visual Element Repository Visualization Style Repository Easic opera Easic opera Ne Content of the content o	
Basic operational definition of the second def	- 1
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Image: Second state of the second s	
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Device License Reader	
Customize	
Describerta and	- 1
Recent pro Options	- 1
AD Import and Export Options	_
🖼 AM Scripting	2
🚔 rdr Edge Gateway	2
AM Miscellaneous	<u> </u>
Update Edge Gateway	
Un Update Linux	
➡ AMAX4270	
ADV_HIGH_SPEED_IO	
🚔 ADV_PLCopen	
☑ Untitled94	
₩AMAX_4270	
₩ AMAX4270	
AMAX4270	
Services POUs	
ToolBox - + ×	
☐ Close page after project load	
Show page on startup	

将BLVD-KRD的EDS汇入CODESYS中

* 点击Tools->Device Repository...



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选择您下载的 『BLVD-KRD_CANopen_V200.eds』。

Install Device Description					
← → ~ ↑ <mark> </mark> > 本機 > 本機磁碟(D:) > (Codesys				
組合管理 ▼ 新増資料夾					
3. 他站方面	名稱 ^	修改日期	類型	大小	檔案版本
	BLVD-KRD_CANopen_V200.eds	2022/11/14 下午 03:30	EDS 檔案	39 KB	
OneDrive - advantech					
🔜 本機					
🧊 3D 物件					
➡ 下載					
♪ 音樂					
* 本機磁媒(C:)					
▲ 本候經緯(D:) Group1 (\)addila2 advantach com) (K:)					
Group? (\actile2.advantech.corp) (k)					
 Groupz (((actiliez.advantech.corp) (c.)) 					
🚅 網路					

导入EDS File



在Device Repositor中会出现BLVD-KRD,这样就代表汇入完成。

😤 Device	Repository							×
Location	System Repository (C:\ProgramData\CODESYS\Devices	s)					~	Edit Locations
Installed I String for	Device Descriptions a full text search	/endor	<all vendors=""></all>				~ 	Install
	fiscellaneous Tiedbuses Mr CANbus Sift CANopen ← CIA CANopenManager ← CIA Local Device ← CIA Device			Vendor	Version	Description		Export Renew Device Repository
	11 750-338m_V13 11 750-338_V14 11 750-338_V14 11 ARS2102_SoftMotion 11 ARS2107_SoftMotion 11 ARS210_SoftMotion 11 ARS210_SoftMotion 11 ARS230_SoftMotion 11 ARS230_SoftMotion			WAGO WAGO Metronix GmbH Metronix GmbH Metronix GmbH Metronix GmbH Metronix GmbH Metronix GmbH Metronix GmbH Metronix GmbH	Revision=16#0000001, FileVersion=1.13 Revision=16#0000001, FileVersion=1.14 4.4.0.0 4.4.0.0 4.4.0.0 4.4.0.0 4.4.0.0 4.4.0.0 4.4.0.0 4.4.0.0 4.4.0.0 4.4.0.0	Imported from 750-338m13.eds Imported from 750-338_14.eds CANopen Remote-Device ARS2102 imported from ARS2102.EDS CANopen Remote-Device ARS21010 imported from ARS2105MOL.EDS CANopen Remote-Device ARS2107 imported from ARS2107.EDS CANopen Remote-Device ARS2102 imported from ARS2205.EDS CANopen Remote-Device ARS2205 imported from ARS2205.EDS CANopen Remote-Device ARS22010 imported from ARS22010.EDS CANopen Remote-Device ARS2200 imported from ARS22010.EDS CANopen Remote-Device ARS2200 imported from ARS2200.EDS CANopen Remote-Device ARS2200 imported from ARS2230.WEDS CANopen Remote-Device ARS2200 imported from ARS2230.EDS CANopen Remote-Device ARS2200 imported from ARS2230.EDS CANopen Remote-Device ARS2200 imported from ARS2230.EDS		Details
<	田子 A HS 23000 Softwordon Device 'BLVD-KRD	E\eds\BLV e reposito	D-KRD_CANopen_V100.ed	IS	4.4.0.0 Revision=16#00000000, FileVersion=1.0	CANOPER REMOTE DEVICE RE2250UW INFORCE TOM ARS230UW EUS	>	



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开启桌面CODESYS V3.5软件,于CODESYS IDE中创建一个新项目。 (此例软件版本为V3.5 SP18 patch2)



E la	Edit View Brejest	Puild Online Debug
riie ≘ì	New Project	Ctrl+N
	Open Project Close Project	Ctrl+O
	Save Project Save Project as Project Archive	Ctrl+S
	Source Upload Source Download	
6	Print Print Preview	
	Page Setup	
	Exit	Alt+F4

程序项目设置

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设置Controller单元。 请依据引导设定,进行AMAX控制器的控制。



程序项目设置



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将编程软件(自身计算机)与实际控制器硬件(Run Time Engine)连接。



② 点击 Gateway,将自身计算机与AMAX控制器连接。







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如下设定。

Gateway	×						
Name Gateway-2 Driver TCP/IP IP-Address ocalhost Port 1217							
The setting 'IP-Address' can be used to spec	tify an IP address or DNS						
address for the gateway. This is useful if you want to connect to a remote gateway running on another PC or device. If you use DNS the address must begin with "dns:" By default, this setting is "localhost' to directly connect to the gateway on your PC.							
	OK Cancel						

1.	一般情况皆用网络(TCP/IP)建立,	可用固定之区网IP处
理		
	此例尚未设定IP(Localhost)	



② 选择欲连接之控制器硬件 此例控制器同样为WINDOWS系统_ID TAB940A[00AA]



如果可以正常的连接,则如下所示。

程序项目设置





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进行CANbus的通信设定。

Devices		→ ₽ X	A Device X					
Dutitled 28		-	-					
🚊 📊 Device (Advantech Control ş	286 D	TE V3 v64)	📙 ① 对Device	(Advar	ntech	Control	x86)点击右键。
🖹 🗐 PLC Logic	ው	Cut						
🖹 🧔 Application	Ē9	Сору						
📲 📶 Library Manage	Ē.	Paste						
PLC_PRG (PRG)	×	Delete						
iak connigura		Refactoring	I	•				
	æ	Properties						
System_Diagnosis (Syst	*:::	Add Object	I					
		Add Folder						
		Add Device	② 点击 Ac	dd Dev	vice	0		
		Update Devic						
	C°.	Edit Object						
		Edit Object W	/ith					
		Edit IO mappi	ing					
		Import mappi	ings from CSV					
		Export mappi	ings to CSV	etric				
	Ľ	Online Config	g Mode					
		Enable SoftM	lotion					
		Reset Origin D	Device [Device]					
		Simulation						

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选择CANbus通讯,建立CANbus。



② 点击 Add Device。



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建立CANopen Manager。

● 使がほん4/vantech Control x86 RTE V3 x64) ● Application ● LC Logic ● Application ● LC PRG (PRG) ● PLC_PRG (PRG) ● PLC_PRG (PRG) ● PLC_PRG ● VISU_TASK ● PLC_PRG ● VISU_TASK ● VISU_TASK ● VISU_TASK ● VISU_TASK ● VISU_TASK ● VISU_TASK ● Poperties Add Object Add Object Add Folder ● Add Folder ● Copy ■ Properties Add Object ■ Add Folder ● Edit Object Edit Object Vith Edit IO mapping Import mappings from CSV Export mappings to CSV	Devices		- ₽ X	
■ Device (Advantech Control x86 RTE V3 x64) ● PLC Logic ● Application ● PLC_PRG (PRG) ● PLC_PRG ● YISU_TASK ● Usualization Manager ● Visualization Manager ● Visu	□ 〕 東方馬達CAN		-	
▲ Copy Properties Add Object Calibus (Calibus) Calibus Copy Paste Properties Add Object Calibus Copy Paste Properties Copy Paste Properties Copy Paste Properties Copy Paste Copy Paste Copy Paste Copy Paste Copy Paste Copy Paste Copy Calibus Construction Copy Paste Copy Paste Copy Calibus Construction Copy Paste Copy Paste Copy Calibus Construction Copy Paste Copy Copy Paste Copy Paste Copy Copy Paste Copy Copy Calibus Construction Copy Paste Copy C	🖹 🔼 Device (Advante	ech Co	ontrol x86 RTE V3 x64)	
▲ Application ↓ Lbrary Manager ↓ LP RG (PRG) ▲ MainTask ④ PLC_PRG ④ VisuElaton Manager ♥ WsuElaton Manager ♥ VisuElaton Manager ♥ VisuElaton Manager ♥ VisuElaton Manager ♥ VisuElaton Manager ♥ VisuElaton Manager ♥ VisuElaton Manager ♥ System Diagnoss (System Diagnoss ♥ VisuElaton Manager ♥	🗏 🗐 PLC Logic			
▲ Delete Properties Add Object Add Device Cathebra Dev	🖹 🧔 Applica	ation		
PLC_PRG (PRG) ● 愛 Task Configuration ● PLC_PRG ● Visualization Manager ● Visualization ● System Diagnosis (System	- 🎁 Libra	ary M	lanager	
▲ Task Configuration ● PLC_PRG ● VISU_TASK ● VISUElems. VISU_Prg ● VISUElems. VISUElems. VISU_Prg ● VISUElems. VISUElems. VISUE ● VISUELEMER ●	PLC	_PRG	(PRG)	
▲ Wisuelization Manager Wisualization Manager Wisualization System Diagnoss (System Diamonta) CANbus (CANbus) 広告右键。 Copy Paste Delete Refactoring Properties Add Object Add Folder Add Device Disable Device Update Device Edit IO mapping Import mappings from CSV Export mappings to CSV	🗏 🎆 Tasi	k Con	figuration	
YISU TASK ♥ VISU TASK ♥ VISU TASK ♥ VISU TASK ♥ VISU Elems. VISU Prg VISU alization CANDUS (CANDUS) 点击右键。 CANDUS (CANDUS) 点击右键。 Copy Paste Delete Refactoring Properties Add Object Add Device Disable Device Disable Device Disable Device Disable Device Candid Colder Candid Col		Main AB) c		
② 点击 Add Device ○ CaNbus (CANbus) 点击右键。 ○ CaNbus (CANbus) 点击右键。 ○ Copy ○ Paste > Delete Refactoring Properties Add Object ○ Add Folder ○ Add Folder ○ Add Folder ○ Lisable Device Update Device ○ Edit Object Edit Object With Edit Object With Edit IO mapping Import mappings from CSV Export mappings to CSV	≡	VISU	TASK	
◆ Visualization Manager ◆ Visualization ● System Diagnosis (System Diagnosis (Sy		<u>ب</u> (ظ	/isuElems.Visu Prg	
● Visualization ● System Diagnosis (System Diagnosis (System Diagnosis (System Diagnosis (System Diagnosis (CANbus) 点击右键。 ● Copy ● Paste > SoftMotion ● Cut ● Paste > Delete Refactoring ● Properties Add Object ● Add Folder ● Add Folder ● Insert Device □ Disable Device Update Device □ Edit Object With Edit Object With Edit IO mapping Import mappings from CSV Export mappings to CSV	🗉 🛃 Visu	alizat	ion Manager	
■ System Diagnosis (System Diagnosis (System Diagnosis (System Diagnosis (System Diagnosis (CANbus) 点击右键。 ③ SoftMotion		alizat	ion	
① CANbus (CANbus) 点击右键。 ③ SoftMotion ⑧ Cut ◎ Copy ◎ Paste > Delete Refactoring ▶ ◎ Properties ④ Add Object △ Add Device ○ Add Folder ○ Add Folder ○ Add Device ○ Lissel Device.	- 🖂 System_Diag	gnosis	s (System Diaconnin)	
SoftMotion ☆ Cut Copy Paste X Delete Refactoring ↓ Properties Add Object Add Folder Add Device Insert Device Disable Device Update Device C Edit Object With Edit IO mapping Import mappings from CSV Export mappings to CSV	🖳 🚹 CANbus (CA	Mhue	└────────────────────────────────────	XANbus)点击右键。
Copy Paste Paste → Delete Refactoring → Properties → Add Object → Add Folder → Add Folder → Add Device → Add Device → Insert Device □ insert Device □ isable Device Update Device □ Edit Object With Edit Object With Edit IO mapping Import mappings from CSV Export mappings to CSV	🔤 🏅 SoftMotion	do De	Cut	1
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Add Folder Add Device Insert Device Disable Device Update Device Edit Object Edit IO mapping Import mappings from CSV Export mappings to CSV		1.2.2	Add Object	
Add Device Insert Device Disable Device Update Device Edit Object Edit Object With Edit IO mapping Import mappings from CSV Export mappings to CSV		6	Add Folder	
Insert Device Disable Device Update Device Edit Object Edit IO mapping Import mappings from CSV Export mappings to CSV			Add Device	② 占击 Add Device…。
 Disable Device Update Device Edit Object Edit Object With Edit IO mapping Import mappings from CSV Export mappings to CSV 	T		Insert Device	
 Update Device Edit Object Edit Object With Edit IO mapping Import mappings from CSV Export mappings to CSV 			Disable Device	
 Edit Object Edit Object With Edit IO mapping Import mappings from CSV Export mappings to CSV 			Update Device	
 Edit Object With Edit IO mapping Import mappings from CSV Export mappings to CSV 		ĥ	Edit Object	
Edit IO mapping Import mappings from CSV Export mappings to CSV			Edit Object With	
Import mappings from CSV Export mappings to CSV			Edit IO mapping	
Export mappings to CSV			Import mappings from CSV	
			Export mappings to CSV	



Advantech AMAX-5570 CANopen+BLV-R

点击『CANopen Manager』,建立CANopen Manager。

🗊 Add Device						>	<
Name CANopen_Manager							
Action							
Append device Insert device Plug device Update device							
String for a full text search	Vend	lor	<all td="" vend<=""><td>ors></td><td></td><td>~</td><td></td></all>	ors>		~	
Name		Ven	dor			Versic ^	
🖃 🔟 Fieldbuses							
■ Cin CANopen ■ Cin CANopenManager 1 点	志						
CANopen_Manager		3S - 3	Smart Softv	vare Sol	utions GmbH	4.1.1.	
CANopen_Manager_SIL2		3S -	Smart Softw	vare Sol	utions GmbH	4.1.1.	
CANopen_Manager_SoftMotio	n	3S -	Smart Softw	vare Sol	utions GmbH	4.1.1.	
E Cin Local Device							
± 345 J1939						>	
Group by category Display all versions (f	orexp	erts o	nly) 🗆 🛙)isplay (outdated ver	sions	
Name: CANopen_Manager Vonder: 25 Smart Software Solutions Cm	ЬU			^			
Categories: CANopenManager	DH				-		
Version: 4.1.1.0							
Order Number:				~	9		
Append selected device as last child of CANbus (You can select another target node in the navigator while this window is open.)							
				Add D	evice	Close]



确认CANopen Manager被建立。

② 点击 Add Device。



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Advantech AMAX-5570 CANopen+BLV-R

在CANopen Manager建立BLVD-KRD装置。



Oriental motor

Advantech AMAX-5570 CANopen+BLV-R

建立BLVD-KRD装置。







CANbus通讯参数建立(通讯主站、Baud率) 请双击CANbus(CANbus)。

Devices 👻 🕈 🗙	CANbus X
advPLCopenCAN	General Log 🛛 CANbus Parameters 🗮 CANbus IEC Objects Status 🌖 Information
IA Device (Advantech Control x86 RTE V3 x64)	
□ III PLC Logic	General
Application	
Library Manager	
DOU (PRG)	Baud rate (kbit/s) 500 V
test (PRG)	
🚍 🧱 Task Configuration	
🖻 🐨 🌑 MainTask	② Baud rate 请设 定为与BLVD-KRD相同的值。
POU	
test	
1) 70 + Trace	
System Diagnosis (System Diagnosis)	
🖹 🕤 CANbus (CANbus)	
CANopen_Manager (CANopen_Manager)	
BLVD_KRD (BLVD-KRD)	

Oriental motor

Advantech AMAX-5570 CANopen+BLV-R

CANopen通讯参数建立(Node-ID···等) 请双击CANopen_Manager(CANopen_Manager)。

■ advPLCapenCAW General Common.CANbus Parameters Log CANopen IEC Objects Status Information ■ Device (Advantech Control x86 RTE V3 x64) ■ Device (Advantech Control x86 RTE V3 x64)	Devices 👻 🕈 🗙	CANbus CANopen_Manager X D POU
Device (Advantech Control x86 RTE V3 x64) PLC Logic Application Ubrary Manager POU (PRG) test (PRG) Task Configuration Start Slaves NMT error behavior NMT start all (if possible) MainTask POU Trace System Diagnosis Diagnosis System Diagnosis System Diagnosis Diagnosis System Diagnosis Diagnosis <	advPLCopenCAN	General Common.CANbus Parameters Log 🛛 🗮 CANopen I/O Mapping 🗮 CANopen IEC Objects Status 🌖 Information
PLC Logic Image: Application Image: Node-ID Image: POU (PRG) Image: Image: Image: POU (PRG) Image: Image: Image: Poul Image: Image: Image: Poul	Marce (Advantech Control x86 RTE V3 x64)	
POU (PRG) Ibbrary Manager POU (PRG) Ibbrary Manager POU (PRG) Ibbrary Manager	PLC Logic	General
POU (PRG) ist test	E Q Application	Node-ID 127 🗧 Check and Fix Configuration
POU (PRG) istest (PRG)	🛗 Library Manager	
Image: test (PRG) Image: Task Configuration Image: Task Config		🗸 Autostart CANopen Manager 🛛 🗸 Polling of optional slaves
Image: Task Configuration Image: Configuration Image:	test (PRG)	Start slaves NMT error behavior Restart Slave ✓
Image: Main Lask Image: POU Image: Trace Image: System_Diagnosis (System Diagnosis) Image: Trace Image: CANbus (CANbus) Image: Trace Image: CANopen_Manager (CANopen_Manager) Image: Trace Image: Trace Image: CANopen_Manager (CANopen_Manager) Image: Trace	Isk Configuration	
Image: CANopen_Manager (CANopen_Manager)		NM I start all (if possible)
Image: Canopen_Manager (CANopen_Manager) Image: Canopen_Manager (CANopen_Manager) Image: Mode: ID 127 Image: Mode: ID 1200 Image: ID	test	⊿ Guarding
○ System_Diagnosis (System Diagnosis) ○ 双击 ○ ① CANopen_Manager (CANopen_Manager) ○ 双击 ○ ② CANopen_Manager (CANopen_Manager) ○ 双击 ○ ③ BLVD_KRD (BLVD-KRD)	al Trace	T Eastha heartheast producing
Image: CANbus (CANbus) Image: CANopen_Manager (CANopen_Manager) Image: BLVD_KRD (BLVD-KRD) Image: CANopen_Manager (CANopen_Manager) Image: CANopen_Manage	System Diagnosis (System Diagnosis)	
○ 双击 □ ① CANopen_Manager (CANopen_Manager) Producer time (ms) 200 □ ◎ BLVD_KRD (BLVD-KRD) I SYNC I TIME	CANbus (CANbus)	Node-ID 127
BLVD_KRD (BLVD-KRD) SYNC TIME Fashle SYNC producing For the stable TIME producing	1) ऱूए 井 🗐 CANopen_Manager (CANopen_Manager)	Producer time (ms) 200
✓ SYNC	BLVD_KRD (BLVD-KRD)	
Enable SYNC producing		SYNC ITIME
		Enable SYNC producing
COB-ID (Hex) 16# 80 COB-ID (Hex) 16# 100 🚖		COB-ID (Hex) 16# 80 COB-ID (Hex) 16# 100 🚖
Cycle period (us) 1000 Producer time (ms) 1000		Cycle period (us) 1000 A Producer time (ms) 1000
Window length (µs)		Window length (µs) 1200 🕞
Enable SYNC consuming		Enable SYNC consuming

② 依上述输入check box和数值。

Advantech AMAX-5570 CANopen+BLV-R

BLVD-KRD通讯参数设定(BLVD-KRD的Node-ID.. 等)。 请双击BLVD_KRD(BLVD-KRD)。

Devices – 4 X	BLVD_KRD X CANbus CANopen_Manager
advPLCopenCAN	🛛 🛛 General PDOs SDOs Log CANopen Parameters 🇮 CANopen I/O Mapping 🗮 CANopen IEC Objects Stat
 advPLCopenCAW Device (Advantech Control x86 RTE V3 x64) PLC Logic PLC Logic POU (PRG) POU (PRG) Task Configuration MainTask POU test (PRG) test POU test CANbus (CANbus) CANopen_Manager (CANopen_Manager) 双击 	General PDOs SDOs Log CANopen Parameters ➡ CANopen I/O Mapping ➡ CANopen IEC Objects State General Node-ID 1 • SDO Channels (1/1 Active) Image: Canopen IEC Objects State Mode-ID 1 • SDO Channels (1/1 Active) Image: Canopen IEC Objects State Mode-ID 1 • SDO Channels (1/1 Active) Image: Canopen IEC Objects State Mode-ID 1 • SDO Channels (1/1 Active) Image: Canopen IEC Objects State Image: Canopen IEC Objects State SDO Channels (1/1 Active) Image: Canopen IEC Objects State Image: Canopen IEC Objects State SDO Channels (1/1 Active) Image: Canopen IEC Objects State Image: Canopen IEC Objects State SDO Channels (1/1 Active) Image: Canopen IEC Objects State Image: Canopen IEC Objects Image: Canopen IEC Objects State State State State Guard time (ms) 0 Image: Canopen IEC Objects Image: Canopen IEC Objects Image: Canopen IEC Objects State Image: Canopen IEC Objects Image: Canopen IEC Objects <t< th=""></t<>

②依上述输入check box和数值。



Advantech AMAX-5570 CANopen+BLV-R

CANopen的PDO参数设定。 请点击『PDOs』。

)点击	eral PDOs	SDOs Log	CANopen Parameters	CANopen I/O Mapping	CANopen IEC Objects	Stat
	General —					
	Node-ID	1	SD0 Chann	els (1/1 Active)	CANopen	
	🗹 Enable	expert settings	Optional devic	e		
	🗌 Enable	SYNC producing	No initialization	n 🔽 Reset node	Sub:002 ~	

G	General PDOs SDOs Log CANopen Parameters 🛱 CANopen I/O Mapping 🛱 CANopen IEC Objects Status 🕕 Information									
Г	Receive PDOs (Master => Slave)									
	🕂 Add PDO 🕂 Add Mapping 💉 Edit 🗙 Delete 🛧 Mov	ve Up 🛛 🖞 Move Down		🛚 Add PDO 🕂 Add Mapping 💉 Edit 🗙 Delete 🔺 Move Up 🔱 Move Down						
	Name	Object	Bit length	Vame Object	Bit length					
	16#1400: 1st RPDO communication parameter	16#201 (\$NODEID+16#200)	16	16#1800: 1st TPDO communication parameter 16#181 (\$NODEID+16	#180) 16					
	Controlword	16#6040:16#00	16	Statusword 16#6041:16#00	16					
	16#1401: 2nd RPDO communication parameter	16#301 (\$NODEID+16#300)	24	16#1801: 2nd TPDO communication parameter 16#281 (\$NODEID+16	#280) 24					
	Controlword	16#6040:16#00	16	Statusword 16#6041:16#00	16					
	Modes of operation	16#6060:16#00	8	Modes of operation display 16#6061:16#00	8					
	16#1402: 3rd RPDO communication parameter	16#401 (\$NODEID+16#400)	48	16#1802: 3rd TPDO communication parameter 16#381 (\$NODEID+16	#380) 48					
	Controlword	16#6040:16#00	16	Statusword 16#6041:16#00	16					
	Targetposition	16#607A:16#00	32	Position actual value 16#6064:16#00	32					
	16#1403: 4th RPDO communication parameter	16#501 (\$NODEID+16#500)	48	16#1803: 4th TPDO communication parameter 16#481 (\$NODEID+16	#480) 48					
	Controlword	16#6040:16#00	16	Statusword 16#6041:16#00	16					
	Target velocity	16#60FF:16#00	32	Velocity actual value 16#606C:16#00	32					

② 位置控制时(Profile Position Mode : pp mode)请选择 『 16#1402:3rd RPD0』和『16#1802:3rd TPD0』。
 速度控制时(Profile Velocity Mode : pv mode)请选择 『16#1403:4th RPD0』和 『16#1803:4th TPD0』。

添加Library。 点击Library Manager->Add Library, 将ADV PLCopen Motion Control CANopen-Orientalmotor加入。

Untitled97.project - CODESYS		– 0 ×
File Edit View Project Libraries	ies Build Online Debug Tools Window Help	▼ 44
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Devices	/ Itbrary Manager X	
B Untitled97	🚰 Add Library 🖌 Delete Library 🦙 Properties 💿 Details 🔝 Placeholders 🎁 Library Repository 🚯 Icon Legend 🏟 Summary	0 0
🖹 🔝 Device (Advanted	Libraries used in application Device.Application	
PLC Logic	Name Namesoace Effective Version	
Application	0 = 10 3SLicense = 3SLicense, 3.5.18.0 (35 - Smart Software Solutions GmbH) 35 LICENSE 3.5.18.0	
PLC_PRG (PRG)	🕸 💼 BreakpointLogging = BreakpointLogging Functions, 3.5.17.0 (3S - Smart Software Solutions GmbH) BPLog 3.5.17.0	
🖹 🎇 Task Configuration	CAA Device Diagnosis = CAA Device Diagnosis, 3.5.18.0 (CAA Technical Workgroup) DED 3.5.18.0	
B MainTask	Image: Tostandard = IoStandard, 3.5.17.0 (System) IoStandard 3.5.17.0 Image: Instandard = IoStandard, 3.5.17.0 (System) IoStandard 3.5.17.0	
PLC_PRG	Li Standard – Standard, 3.5.18.0 (System) Standard 3.5.18.0	
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	CALArming 33 - Smart Software Solutions GmbH	
	C_DataLog 35 - Smart Software Solutions GmbH	
	AC_DeviceDiagnosis 35 - Smart Software Solutions GmbH	
	C A ModuleBase So - Smart Software Solutions GmbH	
	Construction C	
	Advantech Co. Ltd.	
	(3) LADV PLCopen Motion Control CANopen - Orientalimotor Advantech Co. Ltd.	
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	Autorited	
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	OK Cancel	
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Sevices POUs		
ToolBox 👻 म 🗙		
M	Messages - Total 0 error(s), 0 warning(s), 0 message(s)	→ # X
	Description	Project Object Position
	Last build: 🕒 0 🚸 0 Prece	ampile 🗸 😭 Project user: (nobody) 🐼 🔇

添加Library

Oriental motor

加入完成后就可以看到数据库内部FB的说明信息。

👔 Library Manager 🗙					•		
🖬 Add Library 🗙 Delete Library 🔄 Properties 🗟 Details 🗔 Placeholders 🎁 Library Repository 🕦 Icon Legend 😑 Summary							
Libraries used in application 'Device.Application'							
Name Image: Static constraints of the state of the	antech Co. Ltd.)	Namesp _3S_LICEP ADVPLCop BPLog DED	ace Effective Version VSE 3.5.18.0 Inter_CANopen 3.5.1820.2 3.5.17.0 3.5.18.0	on Ø	^		
Contents of selected library 'ADV PLCopen Motion Control CANopen - Orientalmotor, 3.5.1820.2 (Advantech Co	Details about	selectedlibrar	y element 'ADV_Generate_Axis_CA	ANopen'			
ADV PL Copen Motion Control CANopen - Orientalmotor, 3.5.1820.2 (Advantech Co. Ltd.) ADV - Copen_ERROR_ID ADV PLCOPEn_ERROR_ID AUS	✓ Inputs/Ou ADV_Ge	enerate	e_Axis_CANopen(FB)) E		
	FUNCTION_BLOCK ADV_Generate_Axis_CANopen This function block is used to generate the axis object. The following figure shows the example of how to set the InAddr and OutAddr.						
Book rester Axis CANopen Developmente Axis CANopen ADV Jeming Config ADV_MC_SetPosition ADV_MC_SetPosition ADV_MC_Home ADV_MC_Power ADV_MC_ReadStatus ADV_MC_Rest ADV_MC_Rest ADV_MC_Rest ADV_MC_Rest ADV_MC_NoveRelative ADV_MC_MoveRelative ADV_P_MC_MoveRelative ADV_P_MC_MoveRelative ADV_ReadChivemation	Variat S - S S	ole M	lappi Channel Controlword Target position Statusword Position actual value	Address Type Unit Descri %QW2 UMAT %QW2 DDNT %UW138 UMAT %UW138 UMAT %UD70 DNAT %LD70 DNAT Address Type Unit Descri %QW2 ADR(%UM138)	e_Axis_CANopen_0 te_Axis_CANopen Valid -		
- ADV_ResetAlarm	InOut:	Namo	Тиро	Comment			
- (1) HomeMethodulist - 웹 VISU_ADV_Homing_Config - 웹 VISU_ADV_MC_CeceMosition - 웹 VISU_ADV_MC_Home - 웹 VISU_ADV_MC_Power	Input	idxAxis InAddr OutAddr	UINT POINTER TO UINT POINTER TO UINT	The ID of the axis. The pointer to the input memory address of the axis. For example: ADR(%IW138) The pointer to the output memory address of the axis. For example: ADR(%QW2)			
- ISU_ADV_MC_Reset - ISU_ADV_MC_Stop - VISU_ADV_PP_MC_MoveAbsolute - ISU_XSU_ADV_PP_MC_MoveAbsolute	Inout	CANbus slave Axis	CANbusDevice.CANbus_Diag _3SCOS.CANRemoteDevice_Diag AXIS	The object name of the CANbus The object name of the CANopen remote device Reference to the axis			
ୁଙ୍ଗା VISU_ADV_PV_MC_MoveVelodty	Outp	ut Valid	BOOL	TRUE: the axis is valid			

CANopen 1/0 Mapping

Oriental motor

Advantech AMAX-5570 CANopen+BLV-R

ADV_Generate_Axis_CANopen 生成轴结构与映像输入/输出内存地址。

Variable	Mappi	Channel Controlword Target position	Address %QW2 %QD2	Type UINT DINT	Unit	Descri		
≝¥≱		Statusword Position actual value	%IV/138	DINT				
① 将BI 中	_VD_KRD- 钓Addres	>CANopen Ⅰ/0 Mar s与FB结合。	oping		ADR (AI E	1	ADV_Generate ADV_Generate idxAxis InAddr OutAddr CANbus slave Axis	<pre><u>Axis_CANopen_0</u> :e_Axis_CANopen Valid</pre>

轴状态



Advantech AMAX-5570 CANopen+BLV-R

ADV_Generate_Axis_CANopen 所生成的轴其状态如下,当执行不同FB时就会跳到相对应的轴状态。

This function block returns the detailed status of the axis with respect to the motion currently in progress.

Axis State Machine:





Advantech AMAX-5570 CANopen+BLV-R

ADV_MC_Power MC_Power 设计用来控制电源("on" or "off")。



Power on : Enable, bRegulatorOn, bDriveStart = true

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ADV_PV_MC_MoveVelocity 设定加减数与速度就可以进行速度控制了





Advantech AMAX-5570 CANopen+BLV-R



(补充) 相关配件

Oriental motor

※透过Advantech以下的软件配件来启用CODESYS实时运行核心。

如有进阶SM(SoftMotion)/CNC/TV&WV(Visualization)需求请联系Advantech团队

CODESYS Single License							
P/N	Description	Scope					
360TCDSWRTE0A1	CODESYS Control V3 License RTE	SoftPLC					
360TCDSWRTEVA1	CODESYS Control V3 License RTE TV+WV	SoftPLC+TV+WV					
360TCDSW00SMA1	CODESYS Control V3 License RTE SM TV+WV	SoftPLC+SoftMotion+TV+WV					
360TCDSW0CNCA1	CODESYS Control V3 License RTE SM CNC TV+WV	SoftPLC+SoftMotion+CNC+TV+WV					

(补充) 相关配件



Advantech AMAX-5570 CANopen+BLV-R

※透过Advantech以下的硬件配件来启用CANopen通讯口。

■将AMAX-5495添加到AMAX-5580上。



AMAX-5580



AMAX-5495 CANbus PCIe Expansion Modules (2-Port CAN module)



Advantech AMAX-5570 CANopen+BLV-R

修订记录	内容
2023年8月	初版

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华中

武汉 电话 027-8711-9150 传真 027-8711-9141

华北·东北

华南

深圳 电话 0755-8882-9008 传真 0755-8368-5057 广州 电话 020-8739-5350 传真 020-8739-0892 东莞 电话 0769-2882-0215 传真 0769-2882-0235



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