



FAQ for ECAT-2000

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1. 如何使 Beckhoff Configurator 或 TwinCAT 辨識 ECAT-2000?

EtherCAT Slave設備會由製造商提供1個XML或ESI (EtherCAT Slave Information) 描述,我司ECAT-2000 series ESI為「ICPDAS ECAT-2000.xml」,只要將此檔案匯入 Beckhoff Configurator or TwinCAT即可:

(1) 從網站下載 ESI file「ICPDAS ECAT-2000.xml」:
 <u>http://ftp.icpdas.com/pub/cd/fieldbus_cd/ethercat/slave/ecat-2000/software/</u>

 或從ECAT-2000包裝內的CD:
 CD: \fieldbus_cd\ethercat\slave\ecat-2000\software

(2) 將「ICPDAS ECAT-2000.xmL」複製到 Beckhoff EtherCAT Configurator 或 TwinCAT 的檔案路徑:

C:\EtherCAT Configurator\EtherCAT\ICPDAS ECAT-2000.xml

C:\TwinCAT\Io\EtherCAT\ICPDAS ECAT-2000.xml

2. 如何在 Beckhoff Configurator 或 TwinCAT 掃描找到 ECAT-2000?

以下將以ECAT-2055與Beckhoff EtherCAT Configurator 為範例作為說明:

- (1) 開啟 EtherCAT Configurator。
- (2) 開新檔(new I/O Configuration)。
- (3)在 I/O Device 圖示按下滑鼠右鍵·選擇 Append Device...,將開啟 Insert Device

視窗。



(4) 選擇 EtherCAT,按下右側 OK.

Insert Devi	ce	
Туре:	Profibus DP CANopen DeviceNet / Ethernet I/P EtherCAT EtherCAT	Ok Cancel
Name:	Device 1	

(5)此時 *Device 1 (EtherCAT)*已加入 Configurator 的左側視窗,在 *Device*

1(EtherCAT)	按卜滑鼠石鍵	,並選擇 Scan	Boxes	:

示 Demo.esm - EtherCAT Configurator			
<u>File E</u> dit <u>A</u> ctions <u>Y</u> iew <u>O</u> ptions <u>H</u> elp			
028884	8 8 😵 🔨 🚳	• 🖹 Q. 🚳 🍢 🧶 📿	P
SYSTEM - Configuration Real-Time Settings Additional Tasks I/O - Configuration I/O Devices Pevice 1 (EtherCAT) Delete De R Online R Online R Online R Online D Sean Boy	General Adapter Name: I Type: E Box evice eset eload (Config Mode only) elete (Config Mode only) elete (Config Mode only) evice ox	EtherCAT Online CoE - Onlin evice 1 (EtherCAT) therCAT sabled	Id: 1
様 Cut ■ <u>Copy</u> ■ <u>Paste</u> ■ Paste wift 10 [*] Change I × Disabled	Ctrl+X Ctrl+C Ctrl+V n Links Alt+Ctrl+V d		
Ready Change F	letId		Local Config Mode

(6) 選擇您目前接上 ECAT-2000 網卡名稱:

1 new I/O devices found	X
▼Device 1 (EtherCAT) [匾域連線 (AMD PCNET Family PCI Ethernet Adapter - Packe	OK Cancel
	Select All Unselect All

(7) 如果出現如下提示,請按下 Yes/OK 並繼續。



(8) 按下 Yes 啟動 EtherCAT 設備掃描:



(9) 按下 Yes · 啟動 EtherCAT Configurator 的 free run mode。



(10)在 EtherCAT Configurator 已正確掃描出 ECAT-2000 (Box 1):

🔫 Demo.esm - EtherCAT Configurator			
<u>File E</u> dit <u>A</u> ctions <u>Y</u> iew <u>O</u> ptions <u>H</u> elp			
	9 🚷 🔨 💽	🗣 🖹 🔍 🚳 🍢 🛷 🛛 🔋	
 SYSTEM - Configuration Real-Time Settings Additional Tasks I/O - Configuration I/O Devices Device 1 (EtherCAT) Device 1 - Image Inputs Outputs Dout (ECAT-2055 8D1/8D0) Mappings 	General Ether Mame: Type: Comment:	CAT DC Process Data Startup CoE - Online Online Box 1 (ECAT-2055 8DL/8DO) Id: 1 ECAT-2055 8 Ch. Dig. In. Dry/Wet 50V, 8 Ch. Dig. Out. Sink 30V 0.7A	
Ready		Local Free	Run

3. 如何透過 Beckhoff EtherCAT TwinCAT 或 Configurator 更新 ECAT-2000

的 EEPROM 或 ESI 檔?

ECAT-2055原是Revision 1 · 透過*Beckhoff EtherCAT TwinCAT*更新成Revision 2 作為說明:

(1)請參考 Page2 (如何掃描...ECAT-2000...)掃描找出 ECAT-2055 (Box 1)。

(2) 點選 ECAT-2055 (Box 1),選擇 EtherCAT 頁籤,記下更新前版本為 Revision 1。

(3) 按下 Advanced Settings... 按鈕,將開啟 Advanced Settings 視窗。



(4) 左側選擇 ESC Access→E2PROM→Hex Editor, 右側按下 DownLoad from List...,

將開啟 Write EEPROM 視窗。

Behavior		nto	5																
Timeout Settings	0000	04	05	00	00	E8	03	00	OF	00	00	00	00	00	00	B5	00		~
Identification	0010	50	43	49	00	07	08	00	00	01	00	00	00	00	00	00	00	PCI	
- FMMU/SM	0020	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00		
Init Commands	0030	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00		
ISTIDUED CIOCK	0040	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00		
F2PROM	0050	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00		
Configured Station	0060	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00		
Enhanced Link Dete	0070	00	00	00	00	00	00	00	00	00	00	00	00	OF	00	01	00		
Smart View	0080	OA	00	65	00	0A	11	45	43	41	54	2D	32	30	35	35	20	eECAT-2055	
Hex Editor	0090	38	44	49	2F	38	44	4F	09	45	43	41	54	2D	32	30	30	8DI/8DO.ECAT-200	
FPGA	0A00	30	2F	45	74	68	65	72	43	41	54	20	53	6C	61	76	65	0/EtherCAT Slave	
Memory	00B0	20	49	6E	70	75	74	2F	4F	75	74	70	75	74	20	4D	6F	Input/Output Mo	
	0000	64	75	6C	65	73	20	28	45	43	41	54	2D	32	30	30	30	dules (ECAT-2000	
	OODO	29	43	45	43	41	54	2D	32	30	35	35	20	38	20	43	68)CECAT-2055 8 Ch	
	00E0	2E	20	44	69	67	2E	20	49	6E	2E	20	44	72	79	2F	57	. Dig. In. Dry/W	
	OOFO	65	74	20	35	30	56	2C	20	38	20	43	68	2E	20	44	69	et 50V, 8 Ch. Di	
	0100	67	2E	20	4F	75	74	2E	20	53	69	6E	6B	20	35	30	56	g. Out. Sink 50V	
	0110	20	30	2E	37	41	05	44	63	4F	66	66	06	44	63	53	79	0.7A.DcOff.DcSy	
	0120	6E	63	0E	44	69	67	69	74	61	6C	20	49	6E	70	75	74	nc.Digital Input	
	0130	73	05	49	6E	70	75	74	OF	44	69	67	69	74	61	6C	20	s.Input.Digital	
	0140	4F	75	74	70	75	74	73	06	4F	75	74	70	75	74	1E	00	Outputs.Output	12220
	(10)																		1.00
		Dow	nloar	1		C	Dee	d fo	om F	il.								Download	from List
	<u> </u>	50w.	щоа	<u> </u>	_		Nee	a 11	Jun 1	це	_							(Dowinger	(IIOIII DISC)
		Upl	load	_		C	W	rite :	to Fil	e									
>	-				_	_													

(5) 選擇 ECAT-2055 Revision 2 的 EEPROM Description:在 ICPDAS Co., Ltd. →

EtherCAT SLave... → ECAT-2055... (2055/2) · 按下 OK 開始寫入並等待燒錄成功。



(6)將 ECAT-2055 斷電重開機。

(7) 開新檔再重新掃描,確認 ECAT-2055 已是 Revision 2。



4. ECAT-2000 如何切換 Free-Run 與 Distributed Clock (DC)模式?

以**Beckhoff EtherCAT TwinCAT** 設定ECAT-2055切換為DC模式作為說明,類似流程可再切換回Free-Run模式:

(1) 請參考 Page2 (如何掃描...ECAT-2000...) 掃描找出 ECAT-2055 (Box 1)。

(2) 點選 Box 1 (ECAT-2055 8DI/8DO) · 按右鍵 · 選擇 Change to Alternative Type 底下的 ECAT-2055, DC Sync.,... · 將啟動更新 EEPROM · 注意此期間(約數十 秒)ECAT-2055 的電源與 EtherCAT 通訊不可中斷。

Demo.tsm - Twind	AT System Manager							-			
		MA	in J 🖮 6	h 🙆 🎨 :	< 🙆 💩 🗉	Q	6a) 🔶 👩		P		
 SYSTEM - Configuration PLC - Configuration I/O - Configuration Device 3 (EtherCAT) Device 3 (EtherCAT) Device 3 (Inage - Inage - Device 3-Image - Info Stange - Info Stange - Info Inputs InfoData 		General Ether Type: Product/Revis Auto Inc Adda EtherCAT Add Identification	CAT Process ECAT ion: 20557 :: 0 dr: 1001 Value: 0	Image of the state of							
Mappings	■ <u>₩ Append Box</u>	Port	Master					V			
	 Delete Box Pelete Box Import Box Before Export Box Cut 	Ctrl+X									
	<u>Copy</u> <u>E</u> Paste Paste with Links Al	Ctrl+C (w.icr Ctrl+V t+Ctrl+V	das.com/produ	ots/Remote IOA	can bus/ECAT-20	<u>55.htm</u>					
	× Disabled		0	nline	Туре	Size	>Address	In/Out	User		
	Change to Compatible Add to Hot Connect C	e Type Froups ggle	0x 1 0	0) (0)	BYTE BOOL BOOL	1.0 0.1 0.1	26.0 1522.0 1524.0	Input Input Input	0 0 0		
	Change to Alternative	Type ► E	CAT-2055, DC	Sync, 8 Ch E	ng, In. Dry/Wet 50	W, 8 Ch. Dig	Out. Sink 503	7 0.7A	0		
		×		100		1	160 11 22 1 1				

(3)將 ECAT-2055 斷電重開機。

(4) 開新檔再重新掃描,確認是 *Box* 1(*ECAT-2055 DC Sync.* 8DI/8DO),且 Product/Revision 是 2055/100,有 DC 頁籤。



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