



FAQ for ECAT-2000

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1. How to make Beckhoff Configurator or TwinCAT recognize ECAT-2000?

EtherCAT devices are described in an XML file, ESI (EtherCAT Slave Information) file, which describes the modules of the ECAT-2000 series named "*ICPDAS ECAT-2000.xmL*."

- (1) Download the ESI file, ICPDAS ECAT-2000.xmL, from the website <u>http://ftp.icpdas.com/pub/cd/fieldbus_cd/ethercat/slave/ecat-2000/software/</u> or from the CD in the shipping package CD: \fieldbus_cd\ethercat\slave\ecat-2000\software
- (2) Copy the file "ICPDAS ECAT-2000.xml" to the destination folder of EtherCAT Master Tools(Beckhoff EtherCAT Configurator or TwinCAT etc.)
 C:\EtherCAT Configurator\EtherCAT\ICPDAS ECAT-2000.xml
 C:\TwinCAT\Io\EtherCAT\ICPDAS ECAT-2000.xml
 Otherwise, if you are using another tool, to the folder set for that tool.

2. How to scan ECAT-2000 in Beckhoff Configurator or TwinCAT?

This part is described the configuration using the example of ECAT-2055 and the *EtherCAT Configurator* supplied by Beckhoff.

(1) Start your *EtherCAT Configurator*.

(2) Choose File, New to create a new I/O Configuration.

(3) Click *I/O Device* with the right mouse button and choose *Append Device*...

in the menu, and then the dialog window Insert Device is opened.



(4) Select the *EtherCAT* type in this dialog window and confirm with *OK*.

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

(5) Device 1 (EtherCAT) is added to to your configuration, i.e. a new EtherCAT line. Click Device 1(EtherCAT) with the right mouse button and choose Scan Boxes... in the menu.

🗮 Demo.esm - EtherCAT Co	nfigurator			
<u>File E</u> dit <u>A</u> ctions <u>V</u> iew <u>O</u> pt	ions <u>H</u> elp			
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SYSTEM - Configuration Real-Time Settings BAdditional Tasks JO - Configuration Devices Device 1 (Etherc) Mappings	and Boy	Jeneral Adapter <u>N</u> ame: I Type: E	EtherCAT Online CoE - Online tevice 1 (EtherCAT) therCAT	Id: 1
The state has been and the been a				
	💢 <u>D</u> elete Device		_	
	Online <u>R</u> eset	- C 16 1 - 1 X		9
	Conline Reload (Conline Delete (Co	onfig Mode only) onfig Mode only)	sabled	Create symbols 🗌
	😭 Export Device			
	😭 Import Box			
	📉 Scan Boxes			
	X Cut	Ctrl+X		
	E Copy	Ctrl+C		
	Paste Reste with Links	Alt+Ctrl+V		
	"d" Change Id			
	× Disabled			
Ready	Change NetId			Local Config Mode

(6) Choose the correct network device which is connected to ECAT-2000.

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

(7) If the hint is shown, click **Yes/OK** and continue.



(8) Click **Yes** to start scanning for ECAT-2000.



(9) Click **Yes** to activate the free run mode for EtherCAT Configurator.

EtherCA	T Config	irator	\times
?	Activate I	Free Run	
Ye	» (No	

(10) The **ECAT-2000 (Box 1)** is now shown in the EtherCAT Configurator.

🔫 Demo.esm - EtherCAT Configurator			
<u>File Edit Actions Yiew Options H</u> elp			
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SYSTEM - Configuration Real-Time Settings Additional Tasks Do Configuration Devices Configuration Device 1 (EtherCAT) Configuration Device 1-Image Device 1-	General <u>EtherC</u> <u>N</u> ame: Type: <u>C</u> omment:	CAT DC Process Data Startup CoE - Online Online Box 1 (ECAT-2055 8DI/8DO) Id: 1 ECAT-2055 8 Ch. Dig. In. Dry/Wet 50V, 8 Ch. Dig. Out. Sink 30V 0.7A Disabled Create symbols	
Ready		Local Free Run	e di

3. How to upgrade the EEPROM or ESI file of ECAT-2000 via TwinCAT?

This part is described the ECAT-2055 is upgraded from Revision 1 to Revision 2 via *Beckhoff EtherCAT TwinCAT* as follows,

- (1) Please refer to the Page 2(*How to scan...ECAT-2000...*)to get the desired *ECAT-2055 (Box 1)* °
- (2) Click the item *ECAT-2055 (Box 1)*, and choose *EtherCAT* Page. Notice the version is *Revision 1* before the upgration.
- (3) Click the *Advanced Settings*... button and then the "Advanced Settings" window will show up.

🆐 Demo tsm - TwinCAT System Manager	
<u>File Edit Actions View Options H</u> elp	
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SYSTEM - Configuration PLC - Configuration I/O - Configuration I/O - Configuration I/O Devices Device 3 (EtherCAT) Device 3-Image Device 3-Image Devic	Image: Contract of the second products/Remote IO/can bus/ECAT-2055.htm
Ready	Local (192.168.11.33.1.1) Free Run

(4) Choose ESC Access→E2PROM→Hex Editor in the left-hand side and click the button DownLoad from List... on the bottom-right side. · The window "Write EEPROM" will show up.

Jeneral Behavior	Hex Ed	lito	Ì																
- 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		
Sisuidulea Clock	0040	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00		
E2PROM	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/8D0.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	
	00D0	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	lE	00	Outputs.Output	~
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		Dow	nload	ł		C	Rea	d fro	om F	ile								Download f	rom List
	_					-					-								
V		Upl	bea			L	W	rite t	o Fil	e									
					10	-					194								

(5) Choose the EEPROM Description named ECAT-2055 Revision 2: in the list of ICPDAS Co., Ltd. → EtherCAT SLave... → ECAT-2055... (2055/2), and click OK

to start the writing process and wait until the success.



(6) Unplug the power supply and reboot the ECAT-2055.

(7) Restart a new file and rescan, and confirm the ECAT-2055 is Revision 2.



4. How to switch ECAT-2000 in Free-Run to Distributed Clock and back?

This part is described how to switch ECAT-2055 to DC mode via *Beckhoff EtherCAT TwinCAT*. You can switch back in the similar way.

(1) Please refer to Page 2(*How to scan...ECAT-2000...*) to get *ECAT-2055 (Box 1*).

(2) Right Click on the item Box 1 (ECAT-2055 8DI/8DO) and choose Change to Alternative Type→ECAT-2055, DC Sync.,..., and confirm to download the EEPROM. During the write access (several seconds) the power supply for the ECAT-2055 and the EtherCAT communication must not be interrupted.

👼 Demo.tsm - TwinCAT System	n Manager							
<u>File Edit Actions View Options</u>	: <u>H</u> elp							
SYSTEM - Configuration PLC - Configuration I/O - Configuration I/O Devices Devices 3 (EtherCAT)	General Type: Design	EtherCAT	2015 / 2	📉 🗭 🍫 E] ig. In. Dry/Wet 50V	,8 Ch. Dig. C	66° 🔦 🕵	0.7	?
Device 3-Image Device 3-Image-I Standard Inputs Standard InfoData	nfo Auto Ir EtherC. Identifi	nc Addr: AT Addr: 🛄 cation Value:	0 1001 © 0 ©	A	dvanced Setti	ings		
Apper Apper	ad Box ad Module	Port:	Master				~	
🎽 Insert 🗙 Delete	Box Before Box							
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🗙 Disabl	led		6 F	m			10.	**
Chanı Add b	ge to Compatible Type o Hot Connect Groups	ggle	0x00 (0) 1 0	Type BYTE BOOL BOOL	1.0 0.1 0.1	>Address 26.0 1522.0 1524.0	InOut Input Input Input	User O O O
Chans	ge to Alternative Type	ECAT-2	055, DC Sync., 8 Ch. 1	Dig. In. Dry/Wet 50	V, 8 Ch. Dig	Out Sink 503	0.7A	C
Read y			(0)		Local (192.	168.11.33.1.1) Config	Mode

- (3) Unplug the power supply and reboot the ECAT-2055.
- (4) Restart a new file and rescan, and confirm the item is **Box 1(ECAT-2055 DC**
 - Sync. 8DI/8DO), Product/Revision is 2055/100 with DC Tab page.



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