ECAT-2050 DIO Quick Start

1 Shipping Package

The package includes the following items:



If any of these items are missing or damaged, please contact the local distributor for more information. Keep the shipping materials and package in case you want to ship the module in the future.

2Software Communications

- Download the ESI file, *ICPDAS ECAT-2050.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-2050.xml" to the destination folder of EtherCAT Master Tools(Beckhoff EtherCAT Configurator or TwinCAT etc.) C:\EtherCAT Configurator\EtherCAT\ICPDAS ECAT-2050.xml C:\TwinCAT\Io\EtherCAT\ICPDAS ECAT-2050.xml
- 3. Start your *EtherCAT Configurator*. Choose File, New to create a new I/O Configuration.

 Select Options→Show Real Time Ethernet Compatible Devices..., and choose your Ethernet interface or device and Install. Please confirm your device is now under the list of Install and ready to use devices.



5. 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.



6. 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	

7. *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.



8. Choose the correct network device which is connected to ECAT-2000.



9. If the hint is shown, click **Yes/OK** and continue.

EtherCA	T Configurator 🛛 🔀
♪	HINT: Not all types of devices can be found automatically
	OK Cancel

10. Click **Yes** to start scanning for ECAT-2000.



11. Click **Yes** to activate the **free run mode** for EtherCAT Configurator

EtherCAT Configurator		
Activate Free Run		
Yes No		

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

🔫 Demo.esm - EtherCAT Configurator	
<u>F</u> ile <u>E</u> dit <u>A</u> ctions <u>V</u> iew <u>O</u> ptions <u>H</u> elp	
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SYSTEM - Configuration Real-Time Settings Additional Tasks Additional Tasks Devices Device 1 (EtherCAT) Device 1 (EtherCAT) Device 1 (Inputs Duputs Duputs Device 1 (ECAT-2055 8DI/8DO) Mappings	General EtherCAT DC Process Data Startup CoE - Online Mame: Box 1 (ECAT-2055 8DL/8DO) Itype: ECAT-2055 8 Ch. Dig. In. Dry/Wet 50V, 8 Ch. Dig. Out. Sink 30V 0.7A Comment: Image: Create symbols Image: Disabled Create symbols
кезау	Local Free Run

13. The input and output variables contained in the ESI (*.xml) file of the ECAT-2000 are displayed as CANopen Process Data Objects(PDO). The PDOs are listed in the *PDO List* of the *Process Data* tab.

🔫 Demo.esm - EtherCAT Configurator			
<u>File Edit Actions View Options H</u> elp			
D 😅 🖬 🚭 Q, & 🖻 🖻 🚓 👌 🛟 🔨 🚳 🖹 Q, 🚱 🔩 🦉 🕐 🕄			
SYSTEM - Configuration Real-Time Settings Modificial Tasks I/O - Configuration Device 1 (BtherCAT) Digital Output3 <td></td>			
Ready Local	ree Run		

ICP DAS, ECAT-2050 DIO Quick Start, Rev. 1.00 Page 5

3 Status LED Indicators

Notation	Color	States	Description	
PWR	Red	On	The device is powered up	
RUN	Red	Off	The device is in state INIT	ICEDAS
		Blinking	The indicator shall turn on and off iso-phase with a frequency of 2.5 Hz: on for 200 ms followed by off for 200 ms.	ECAT-2050
		Single Flash	The indicator shall show one short flash (200 ms) followed by a long off phase (1000 ms).	DPWR D/I 0 0 0 0 0 0 0 0 0 1 2 3 4 5 6 7 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
		On	The device is in state OPERARIONAL	Ether CAT.
Link		Off	No link	
Activity	Green	Blinking	Link and activity	
IN/OUT		On	Link without activity	
D/I	Green	Off	Input voltage is lower than +2 V_{DC} (Max.)	
		On	Input voltage is higher than "Off" state	
5/0	Current	Off	Digital output status is "Off"	
0/0	Green	On	Digital output status is "On"	

4 Pin Assignments



ICP DAS, ECAT-2050 DIO Quick Start, Rev. 1.00 Page 6



> Input Wiring

	-	-
Input	ON	OFF
Relay Contact (Wet)	+ _ □⊖ DI.COM □⊖ DIx Relay Close	+ _ □⊖ DI.COM DIx Relay Open
NPN Output (Wet)		OFF L DI.COM

> NPN Output Wiring(Default):

Jumpers JP2 to JP5 are used to configure the Output type as either PNP (Source) or NPN (Sink) for Digital Output channel 0 to 3. To configure *NPN (Sink) output*, *connect pin2 to pin3*.



Output	ON	OFF
Drive Relay	Ext.PWR DOx Ext.GND	► Ext.PWR DOx Ext.GND
Resistance Load	± ⊈ ± ± = Ext.PWR □ DOx □ Ext.GND	± ा× ±= □⊖ Ext.PWR □⊖ DOx □⊖ Ext.GND

> PNP Output Wiring:

Jumpers JP2 to JP5 are used to configure the Output type as PNP (Source) or NPN (Sink) for Digital Output channel 0 to 3. To configure *PNP (Source) output*, *connect pin1 to pin2*.





If you have any difficulties using your ECAT-2000 series modules, please contact us or send a description for the problem to <u>service@icpdas.com</u>.