

EtherCAT Master Software Quick Guide

English

Ver. 1.0.25, Feb. 2022



WARRANTY

All products manufactured by ICP DAS are warranted against defective materials for a period of one year from the date of delivery to the original purchaser.

WARNING

ICP DAS assumes no liability for damages consequent to the use of this product. ICP DAS reserves the right to change this manual at any time without notice. The information furnished by ICP DAS is believed to be accurate and reliable. However, no responsibility is assumed by ICP DAS for its use, nor for any infringements of patents or other rights of third parties resulting from its use.

COPYRIGHT

Copyright © 2022 by ICP DAS. All rights are reserved.

TRADEMARK

Names are used for identification only and may be registered trademarks of their respective companies.

CONTACT US

If you have any questions, please feel free to contact us via email at:

service@icpdas.com; service.icpdas@gmail.com

SUPPORT

ECAT-M801 Series

EMP-9000 Series

Contents

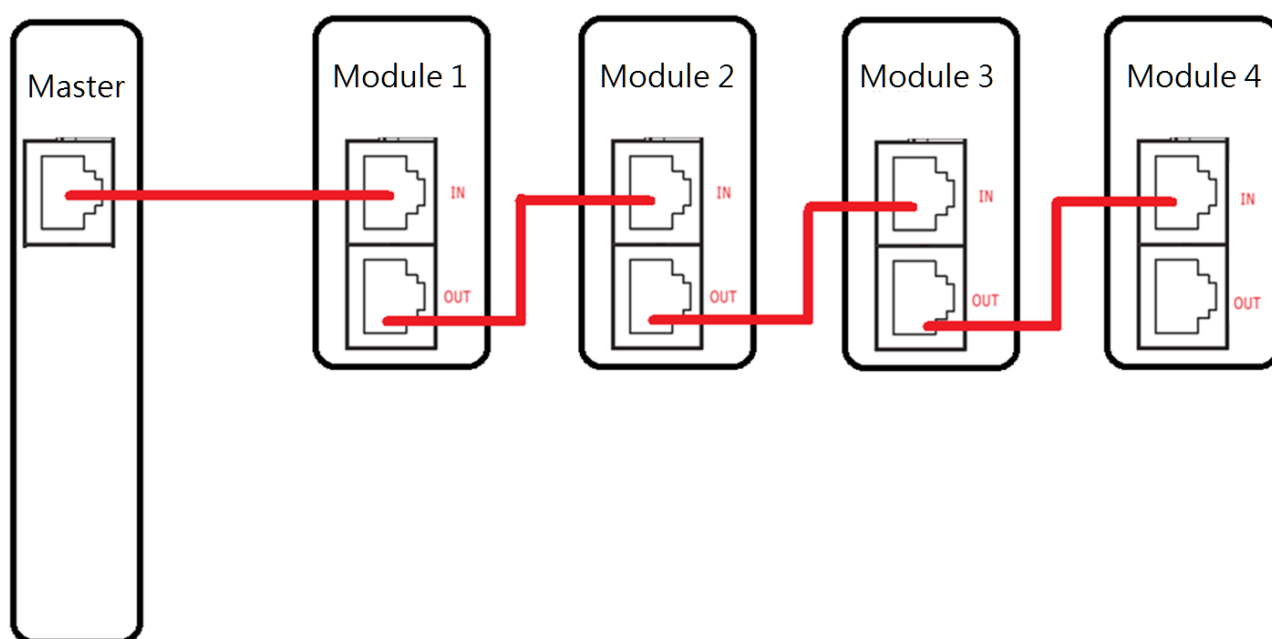
1.	Module connection	3
1.1.1.	Connection	3
2.	EcatUtility	4
2.0.	Start the Utility	4
2.0.1.	Select Slave number definition	4
2.0.2.	ALIAS Setting	6
2.1.	Network Information Edit Steps.....	7
2.2.	Motion Control Parameter File	8
2.3.	Operation of DIO Module	9
2.3.1.	DI Module	9
2.3.2.	DO Module	10
2.4.	Axis operation.....	11
2.4.1.	Motion	11

1. Module connection

1.1.1. Connection

There are 2 network jacks of the module, namely IN and OUT. When connecting, please pay attention to:

The master station is connected to the IN of the first module; the OUT of the first module is connected to the IN of the second module, and so on.

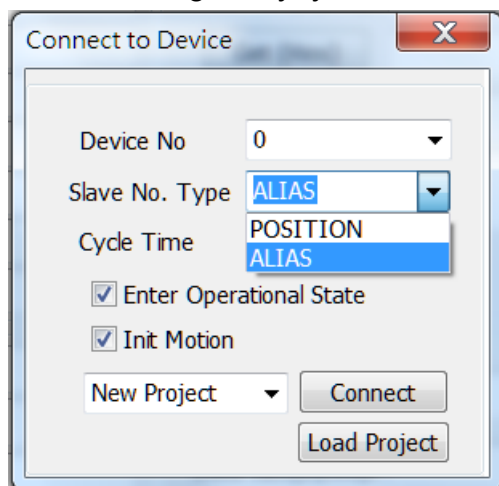


2. EcatUtility

2.0. Start the Utility

2.0.1. Select Slave number definition

When starting Utility, you can choose the definition of the Slave number.



Item	Description
(1) POSITION	The slave number is the position of the module. Refers to the position of the module in the EtherCAT network architecture (Master-Module 0-Module 1...)
(2) ALIAS	The slave number is the module alias (Alias) Not affected by module connection sequence, can be set by user Range: 1~65534

Take Figure 2.1 as an example:

When the slave number type is POSITION, the slave number "1" refers to ECAT-2028

When the slave number type is ALIAS, the slave number "1" refers to ECAT-2011H

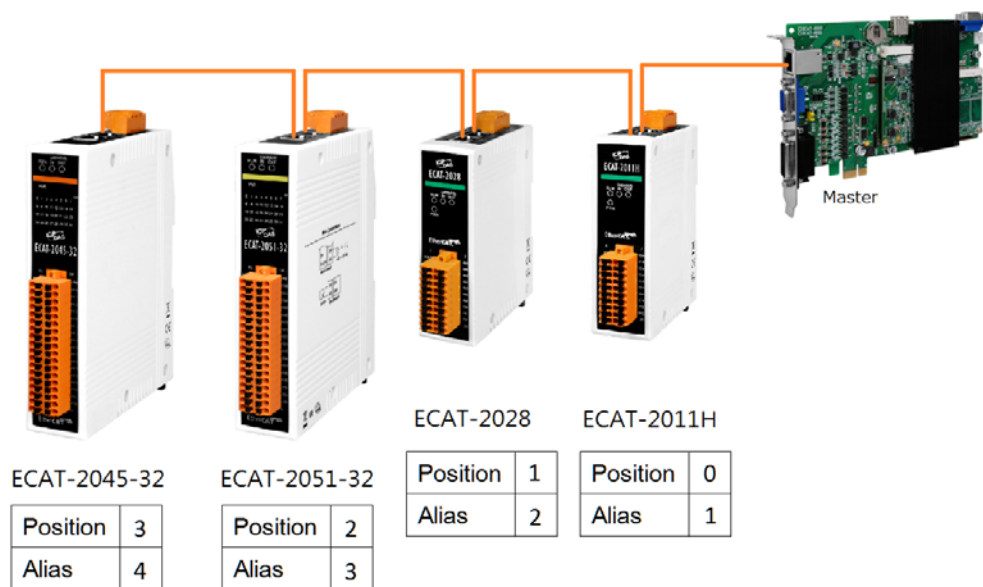


Figure 2.1

2.0.2. ALIAS Setting

When Alias mode is selected, it will enter the Alias Setting page.

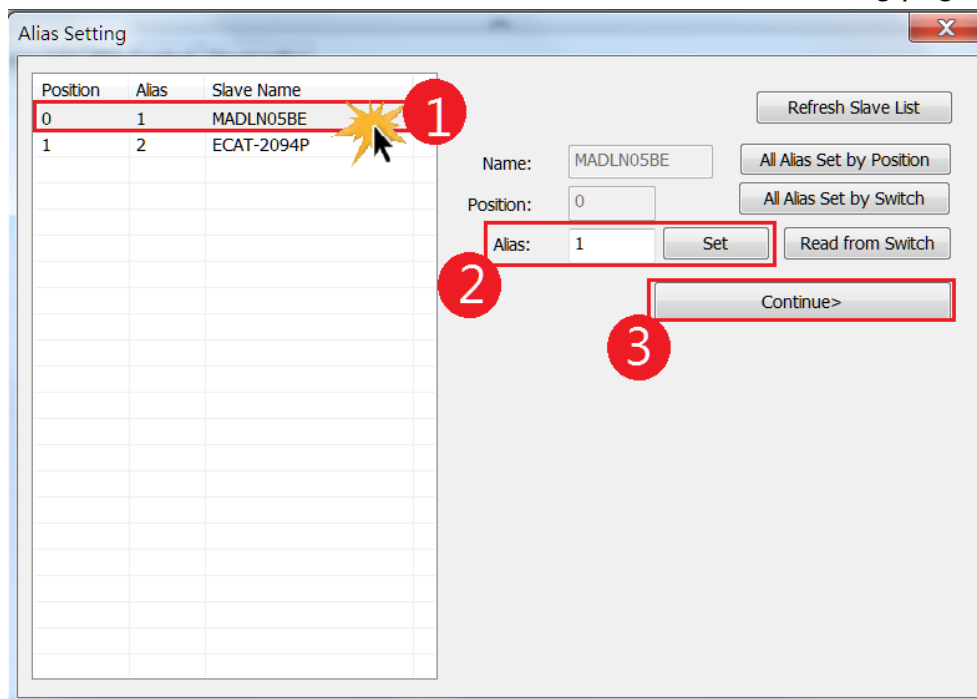


圖 2.2

Step 1: Click on the module to modify Alias

Step 2: Fill in the new Alias value, click Set to set Alias

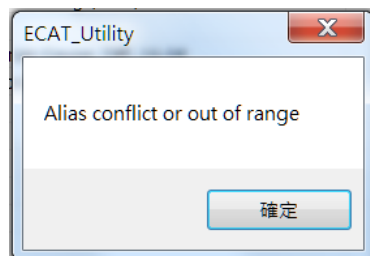
The value can be set in the range: 1~65534

Step 3: Repeat the above actions until all modules are set

Step 4: When all modules are set up, click Continue> to enter the operation page

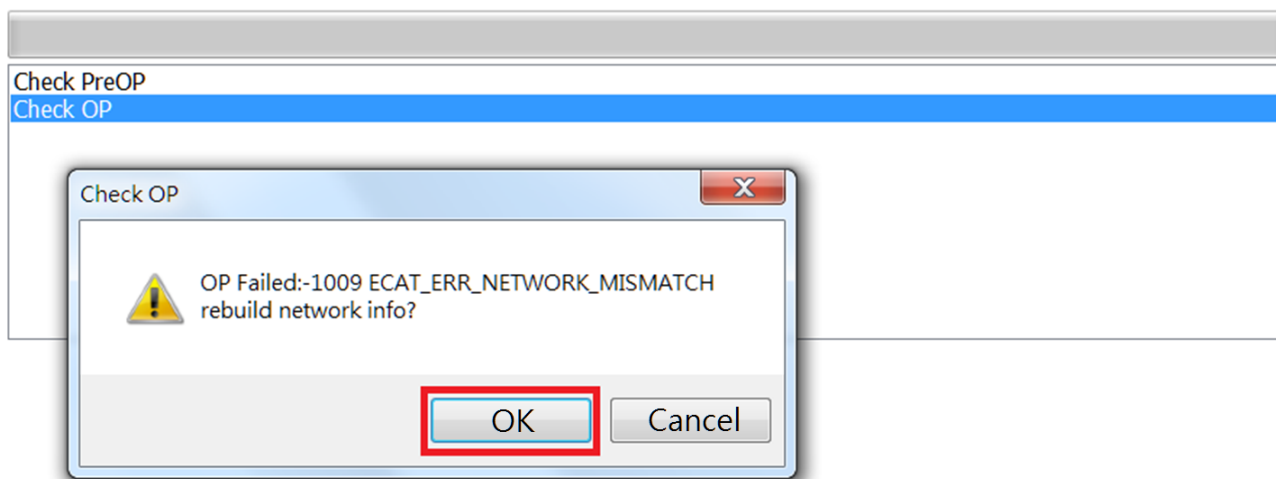
Note: (1) After modifying Alias, the module needs to be powered on again

(2) When Alias conflicts or is out of the allowable range (1~65534), the following error will occur



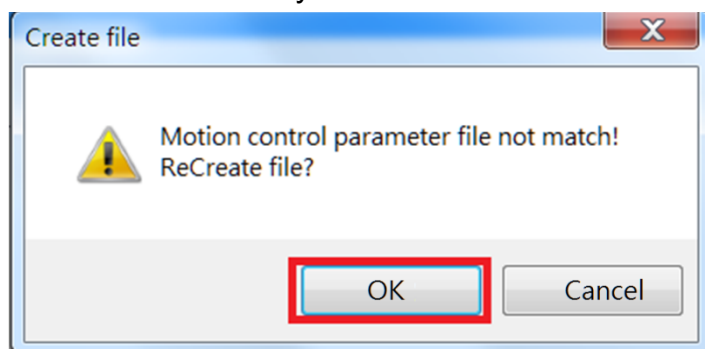
2.1. Network Information Edit Steps

In Auto mode, it will automatically enter the OP, which means that network editing is required. Please put the ESI file under C:\icpdas\Ecat-M801\ESI first, press OK and it will automatically perform network editing and enter OP



2.2. Motion Control Parameter File

In Auto mode, it will automatically check whether the currently connected module has an axis. If so, the following window will appear. After pressing OK, the axis parameter file will be created automatically



2.3. Operation of DIO Module

2.3.1. DI Module

Click the DI module, the current DI status will be displayed in the Txpdo area at the bottom right of the Dialog.

The order of DI bits from low to high is from left to right and from top to bottom

The screenshot shows the 'Slave Info' tab in the EtherCAT Master software. The 'Slave Name' list on the left includes 'ECAT-2051-32', which is highlighted. The 'Information' section on the right displays various slave parameters. The 'Txpdo' area at the bottom right shows the current DI status as a 4x8 grid of bits, with bit numbers 0-31 labeled on the right. The 'Txpdo' area is highlighted with a red box.

NO.	Slave Name
1	MADLN05BE
2	ECAT-2057-NP...
3	ECAT-2051-32

Information

Alias: 3

Product Code: 2051

Vendor ID: 4801360

Revision No.: 2097153

Serial No.: 0

SlaveType: Generic

SlaveAlState: 8

Software Ver: 1.4

SDO

Index(Hex):

SubIndex(Hex):

Data Size(Bytes):

Get

Set

Advanced Setting

Rxpdo

Offset(Bytes):

Data Size(Bytes):

Get (Hex)

Set (Hex)

ConvertToHex

127

Sign Min -128 Max 127 Size(bit) 0

UnSign

Txpdo

Offset(Bytes):

Data Size(Bytes):

Get (Hex)

Show PDO

0 7

8 15

16 23

24 31

2.3.2. DO Module

Click the DO module, the current DO status will be displayed in the Rxpdo area at the Top right of the Dialog.

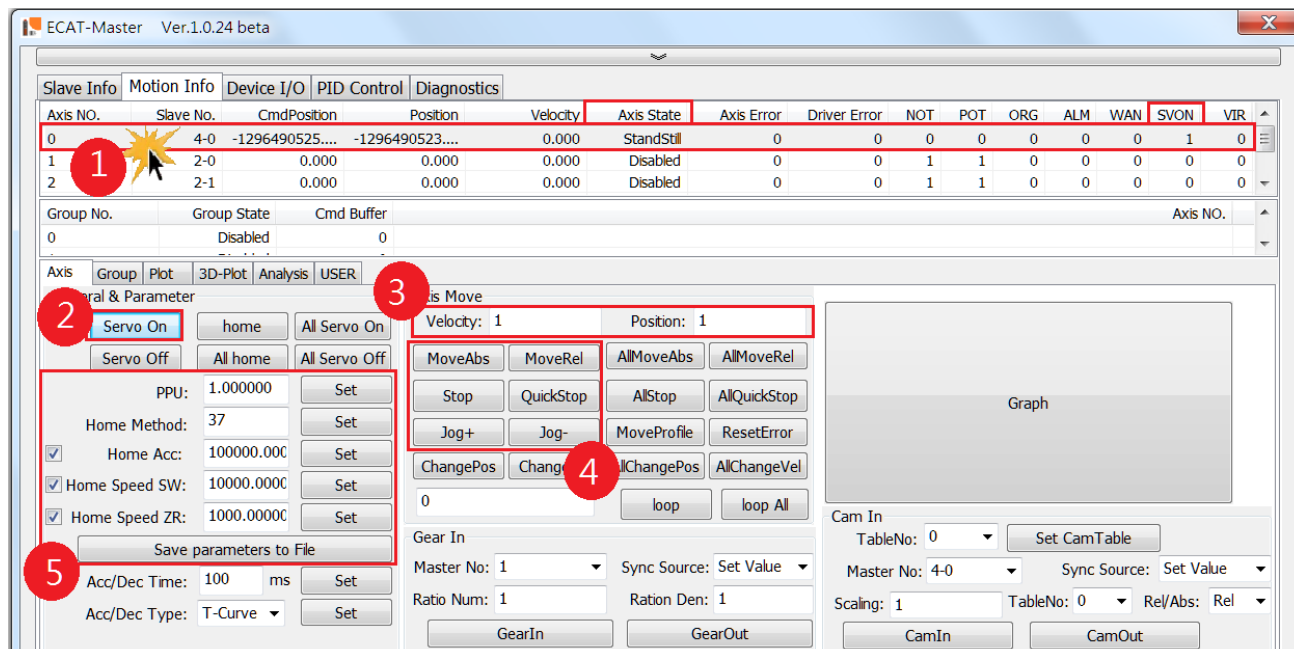
Click the DO point to ON or OFF the BIT

The order of DO bits from low to high is from left to right and from top to bottom

The screenshot shows the EtherCAT Master software interface with the 'Diagnostics' tab selected. The 'Slave Info' table on the left lists three slaves, with the second slave 'ECAT-2057-NP...' selected. The 'Information' section displays details for this slave, including Product Code (2057), Vendor ID (4801360), and Revision No. (1048577). The 'Rxpdo' area, highlighted with a red box, shows the current DO status for the selected slave. It includes fields for Offset (Bytes) and Data Size (Bytes), and a grid of 16 DO bits (0-15). Bit 1 is currently ON (green indicator). The 'Txpdo' area is also visible below the 'Rxpdo' area, showing fields for Offset (Bytes) and Data Size (Bytes), and a grid of 16 DO bits (0-15).

2.4. Axis operation

2.4.1. Motion



Step 1: Click the axis to be operated

Step 2: Click Servo On. At this time, the Axis State in the upper state column is StandStill, and SVON is 1.

Step 3: Enter Velocity and Position, when PPU is 1, the speed and position units are Pulse/sec and Pulse

Note: According to different brands of drives, the speed unit may not be Pulse/sec

Step 4: Click MoveAbs to move to the input position

MoveRel moves the input Pulse in the positive or negative direction according to the sign of the position

Jog+ moves in the positive direction according to the entered velocity. Press left mouse button to start moving, release the button to stop moving

Jog- moves in the negative direction according to the entered velocity. Press left button to start moving, release the button to stop moving

Note (1): Please enter a positive value for the velocity, and a positive or negative value for

the position

(2): If it cannot be moved, please confirm NOT and POT is 0, please connect the limit switch and test again

(3): If NOT or POT are both 0 and still unable to move, please increase the speed and try again

Step 5: Save parameters to File can save the current axis parameters back to the axis parameter file