9 change the Soft Components

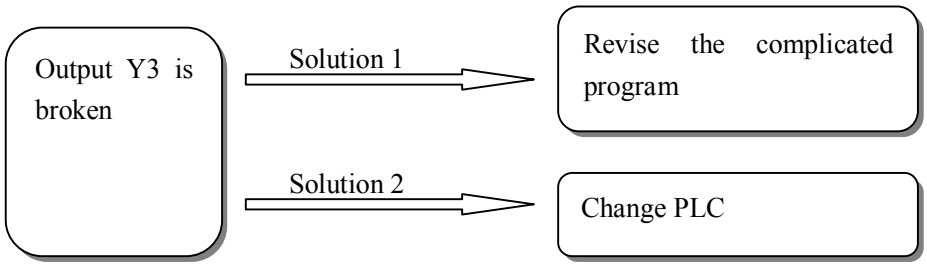
This chapter focuses on a special function of XC serials PLC, mapping relationship of terminals and soft components. With this special function, users reduce the maintenance job greatly. To the local operation, they will not bother with the damaged terminals any more.

9-1. Function Summary

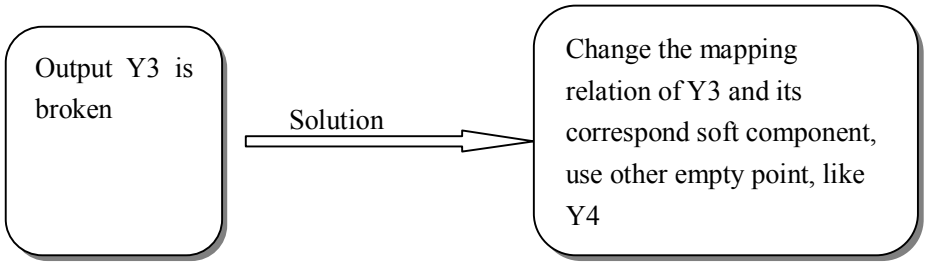
To general PLC, when the internal optical couples, relays or transistors are damaged, the correspond input/output terminals will be faulty. The only solution is to revise the program. This is troublesome for the user and affect the production greatly;

The new type PLC developed independently by Thinget Electronic Co.,Ltd. breaked this one-to-one correspondence. The users only need to change the soft component's value by HMI, then the correspond terminal will activate. Take advantage of this improvement, the user needn't replace the PLC or modify the original program in the condition of PLC terminals damaged.

Before (Complicate and not effective)



Now (Simple, fast and effective)



9-2. Operation Method

To the damaged input/output, we can change their mapping relation, replace the damaged input/output points with other. This needn't change the user program. In PLC special register, we specify certain address section for user to change the mapping relation. User just finds the mapping relation of the damaged input/output, replace the value in this special register with the value of changed input/output.

Below is the table to modify the input/output point's mapping ID:

Table1 mapping relationship of the Input and soft component

ID.	FUNCTION	DESCRIPTION
FD8010	X00 corresponds to I**	X0 corresponds to the number of input mapping I**
FD8011	X01 corresponds to I**	
FD8012	X02 corresponds to I**	
……	……	
FD8073	X77 corresponds to I**	

Table2 mapping relationship of the output and soft component

NO	FUNCTION	INSTRUCTION
FD8074	Y00 corresponds to O**	Y0 corresponds to the numeber of output mapping O**
FD8075	Y01 corresponds to O**	
FD8076	Y02 corresponds to O**	
……	……	
FD8137	Y77 corresponds to O**	

As shown in the table above, the original value is FD8010 is 0, if replace it by value "7", then X7 will represent X0 in the program. But meantime you should change the value in FD8170 to be 0, to realize exchange. In this way, X0 will correspond with external input X7; X7 will correspond with external input X0.

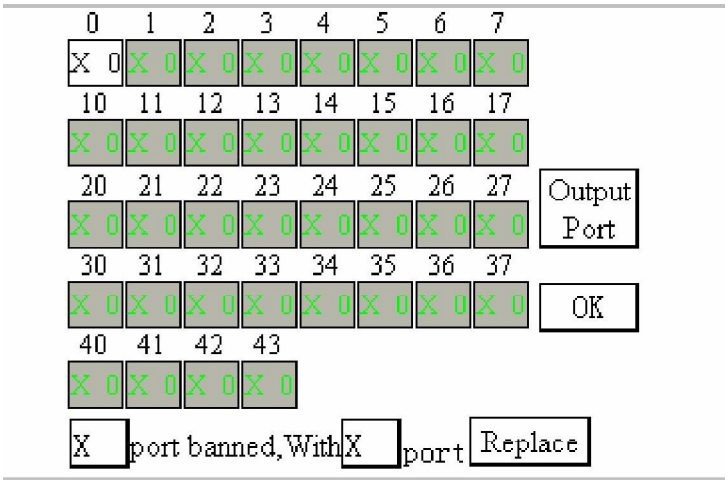
※1: After changing the mapping relation, please restart the PLC.
※2: When change the mapping relation, please notice, input/output is in octal, but the addresse ID is in decimal.
※3: When change, should exchange the mapping relation. i.e. if modify X0 ID to be 5, make sure to change X5 ID to be 0;
※4: Mapping relation, must one terminal correspond one soft component
※5: Users can modify the FD value online, but this method is not recommended. We recommend to use method in chapter 9-3;

9-3. Operated by HMI

User can change the mapping relation by XCP Pro, but PLC must be online with PC. We suggest users to change the mapping relation by HMI. Below is the sample:

There are two screens based on ID60004 and ID60005 in THINGET TP series HMI, they are used for changing the mapping relation of input and output. We just need to put the "Screen Jump" Button in the program interface, touch the Button, jump to the specified screen, change the mapping relation there.

Modify the input point's mapping screen (ID60004), see below:

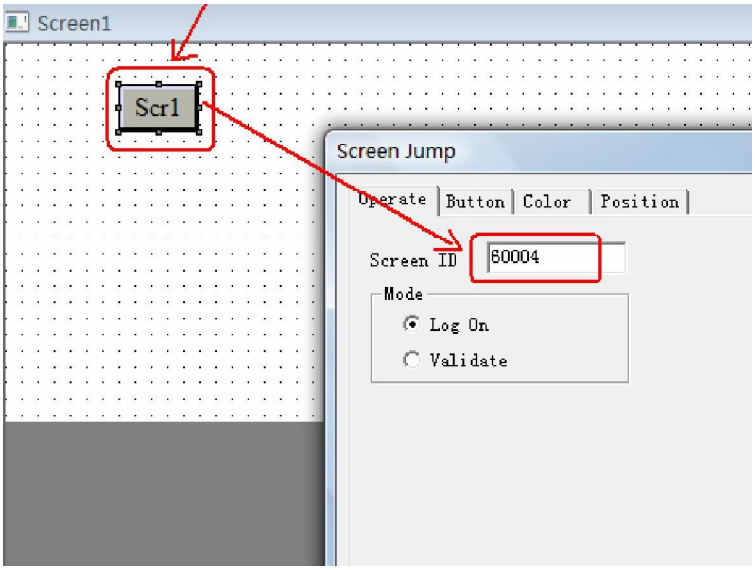


Modify the output point's mapping screen (ID60005), see below:

From the above graph, we can see that in the screen we list all the input/output terminals, and it's simple to modify. Below we tell the steps:

Step1

Put the screen jump icon, jump to screen ID60004



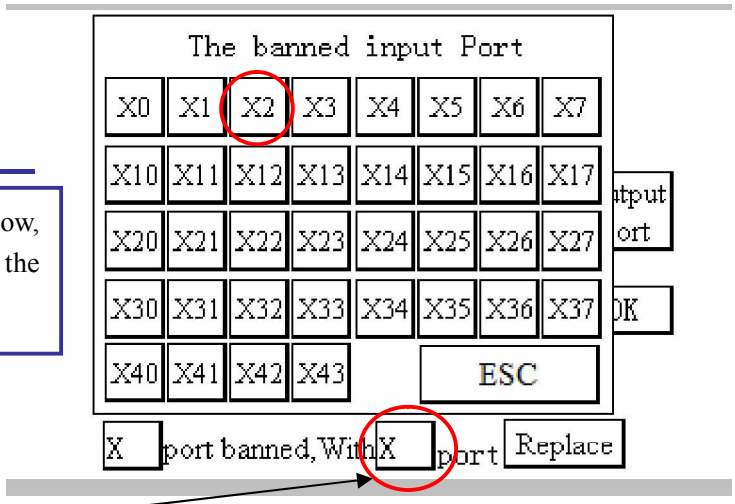
Step2

Click into "Scr1", enter the modify table

Click it, you will see the pop-up window:

Step3

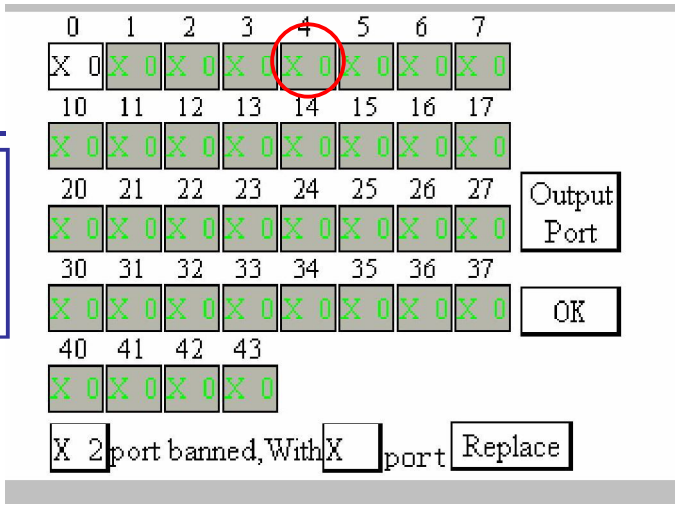
In the pop-up window, click X2, disable the faulty terminal X2



Continue to click it, the replacement window will pop up:

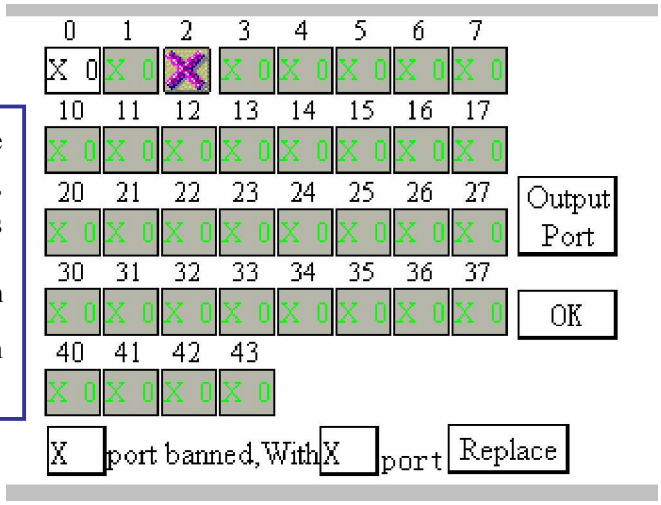
Step4

In the pop-up window, click X4, replace the faulty terminal X2 with X4



Step5

Click "Replace", the status table will change, the original X2 changes to be  , which means X2 has been disabled.



As in the above graphs, we need only 5 minutes replace I/O terminals. This method avoids us to modify the program, change PLC etc.

※1: after modification, make sure to restart PLC