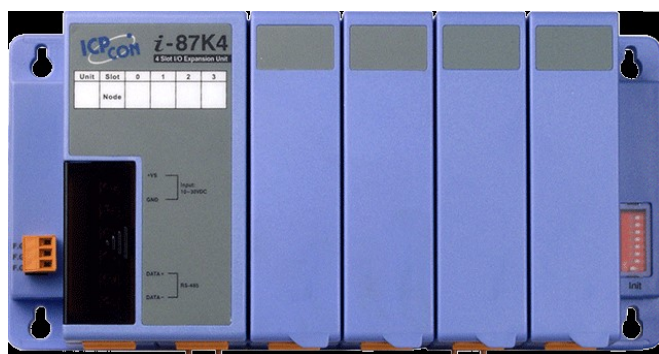


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How to upgrade from I-87KN to RU-87PN ?

Both I-87KN and RU-87PN are RS-485 expansion units of I-87K series I/O modules. As shown in the figure below, the old I-87K4 is on the left and the new RU-87P4 is on the right.



I-87K4



RU-87P4

Both are RS-485 expansion units of I-87K series I/O modules. But the biggest difference in use is the program to be updated after the module is damaged.

RU-87PN Update procedure after module damage:

RU-87PN itself has an auto configuration function. When the on-site personnel find that the module is damaged, they will directly unplug the broken module and replace the new module to complete the update, regardless of the original module settings. .

I-87PN Update procedure after module damage:

Compared with users who use I-87KN, if they want to replace the damaged module, they must first understand what the module has to be set, and then they must find a PC to reconfigure the new module before it can be used online.

The key factors:

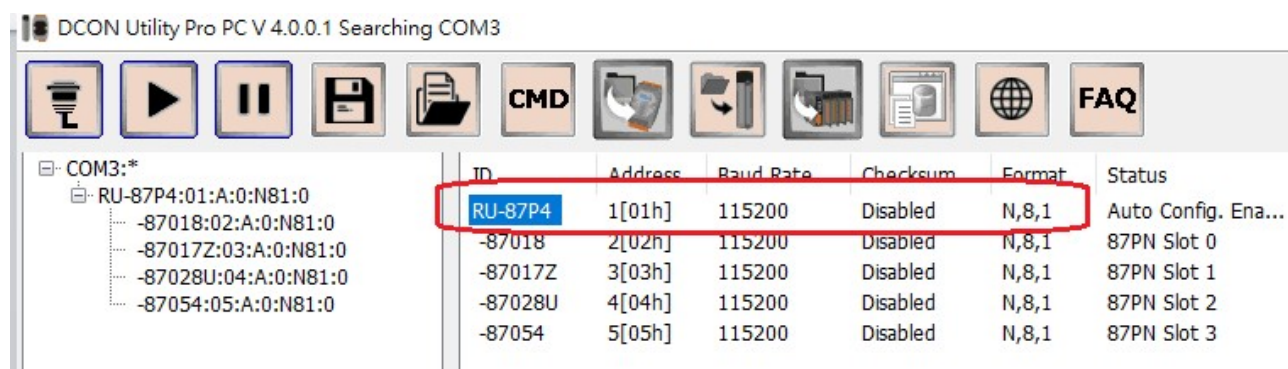
1. Usually the module setting is done by the manufacturer and engineer who developed the program. The on-site personnel do not know how to set the module.
2. There is usually no PC and network in the application field. Even if there is a PC, it must be installed with DCON Utility Pro and other setting programs.
3. Normally, when the module is damaged, it is hoped that the module can be replaced immediately to make the system work again. If you use RU-87PN, you only need to prepare spare parts on site, and when the module is broken, just replace it. It doesn't need to wait for the developer to order the module to be update the damaged one.

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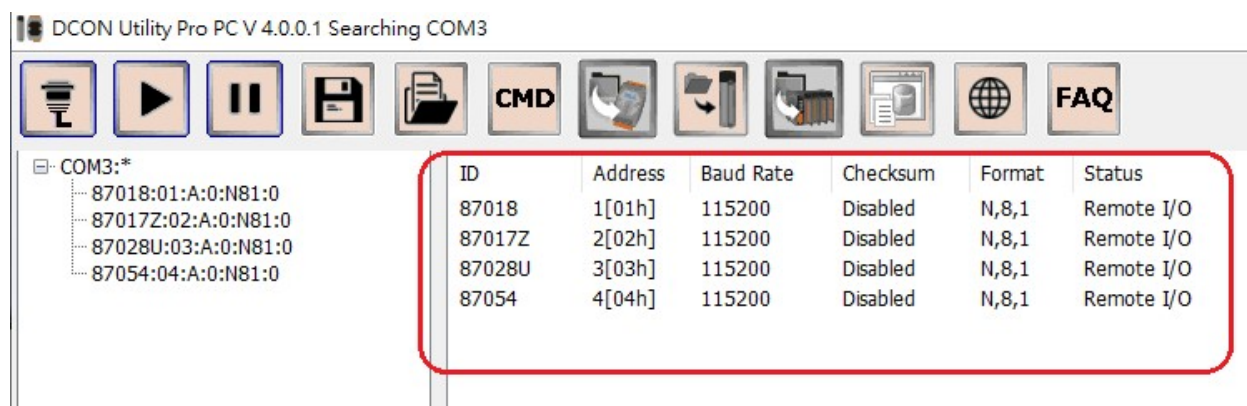
Using RU-87PN is actually more economical if you take into account the convenience and timeliness of subsequent maintenance.

First, we will show the problems that I-87KN users will encounter when upgrading to RU-87PN and how to solve them.

When use RU-87PN to search I-87K modules, the search result by default will look like the following

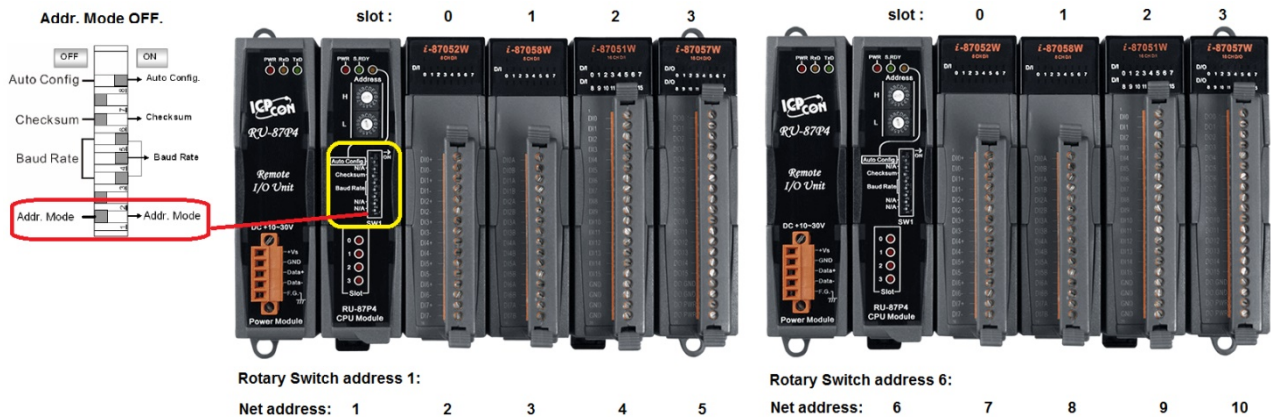


However, the general module planning habits of users who use I-87KN are more like the following situation

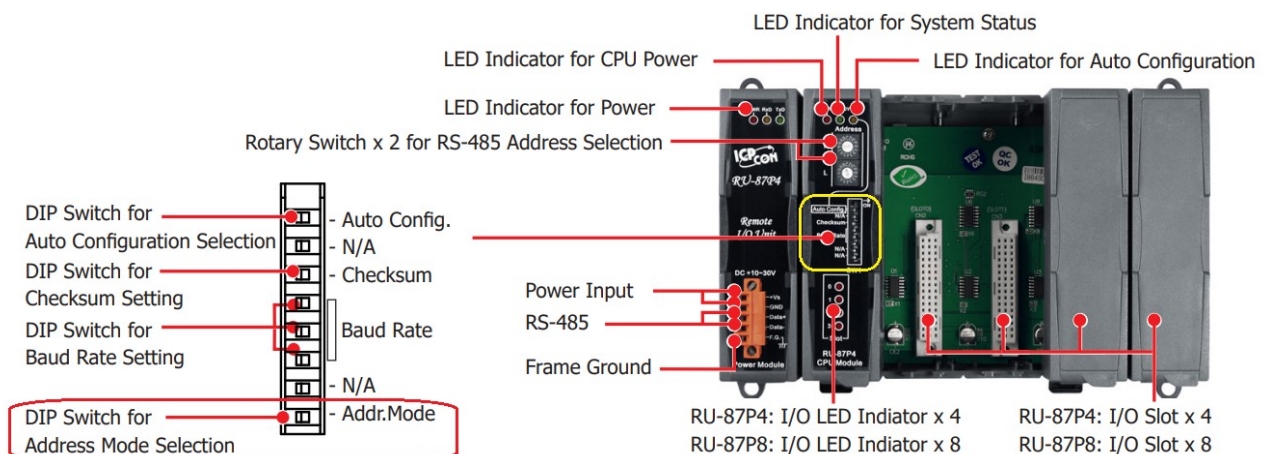


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The module planning of I-87KN is usually 1, 2, 3, 4, 5, 6... in order. RU-87PN will occupy a communication address, and the default shipping setting is address 1. And I-87K module address are 2, 3, 4, 5 according to the slot position. If there are two groups of RU-87P4, the other group module arrangement will be 7, 8, 9, 10 as shown in the figure below



This I-87K I/O module address arrangement will not cause trouble for new developers, but for applications that previously used the I-87KN series have to modify the original code in order to match the RU-87PN address arrangement method. After RU-87PN firmware A4.0.0, a new Addr.Mode was added to solve this compatibility problem.



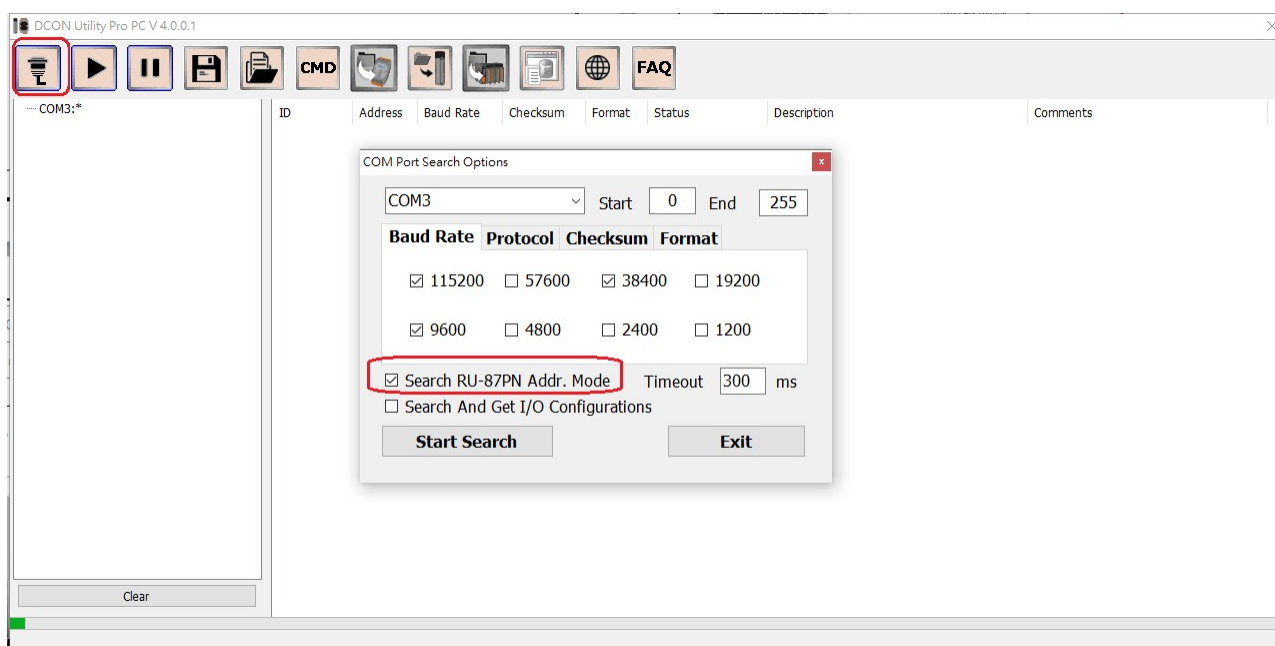
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The default address of RU-87PN is 1, which is defined by Rotary-Switch on the panel, and Addr.Mode Dip-Switch is OFF

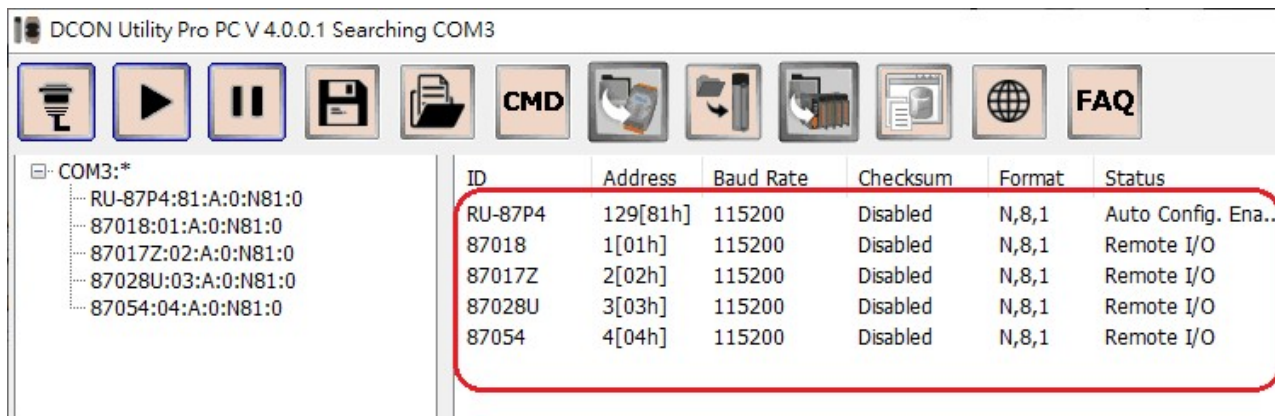
Rotary Switch x 2 for RS-485 Address Selection



When Addr.Mode Dip-Switch is set to the ON position, the RU-87PN address will be switched to 128+ Rotary-Switch address. That is, if you switch to the address of 1, the address of RU-87PN will jump to 129, and the I-87K module address arrangement on the Slot will be 1, 2, 3, 4(start with the Rotary-Switch address). Because RU-87PN is related to the I-87K I/O module on the Slot, the searched station number will be 129, 1, 2, 3, 4. To achieve such search results, the DCON Utility Pro search option must enabled "Search RU-87PN Addr. Mode".



The search results are as follows.



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If there are two groups of RU-87PN and another group of Rotary-Switch to be adjusted to the address of 5, the search order will be 129, 1, 2, 3, 4, 193, 5, 6, 7, 8

Addr. Mode ON : Make net address of slot I/O on multi sets of RU-87PN be continuous.
 As following two sets, the I/O network addresses are arranged as (1,2,3,4,5,6,7,8), then the I/O address mappings are the same as I-87KN I/O extension unit.
 The net address of RU-87PN will jump to 128, + Rotary switch, for example if Rotary switch is 1, then net address of RU-87PN is 128 + 1 = 129

slot : 0 1 2 3

slot : 0 1 2 3

Net address: 128 + 1
Rotary Switch address 1:

Net address: 128 + 5
Rotary Switch address 6:

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In this way, the original I-87KN can be directly upgraded to RU-87PN without modifying the program, saving on-site maintenance costs.

