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기본 PDO MAP 변경

× ESI 파일에서 제공되는 기본 PDO Map 변경에 대한 안내 페이지입니다.

Intro

The screenshot shows the 'Configurator' software interface. The 'Main' tab is selected. The 'Scanned List' on the left shows three slaves: #00 [02FFh] MASTER-DC, #01 [0001h] R88D-KN01H-ECT, and #02 [0002h] R88D-KN01H-ECT. The 'SyncManager' table shows four entries: SM 0 (Size 256, Type MBoxOut), SM 1 (Size 256, Type MBoxIn), SM 2 (Size 12, Type Outputs), and SM 3 (Size 28, Type Inputs). The 'PDO List' table shows various PDO mappings. The 'PDO Assignment' table is highlighted with a red box, showing a list of indices from 0x1600 to 0x1705, with 0x1701 selected. The 'PDO Contents (0x1701)' table shows four entries: Controlword (UINT), Target position (DINT), Touch probe function (UINT), and Physical outputs (UDINT).

SM	Size	Type
0	256	MBoxOut
1	256	MBoxIn
2	12	Outputs
3	28	Inputs

Index	Size	Name	SM
0x1600	8	1st receive PDO Mapping	
0x1701	12	258th receive PDO Mapping	2
0x1702	19	259th receive PDO Mapping	
0x1703	17	260th receive PDO Mapping	
0x1704	23	261th receive PDO Mapping	
0x1705	19	262th receive PDO Mapping	
0x1A00	22	1st transmit PDO Mapping	

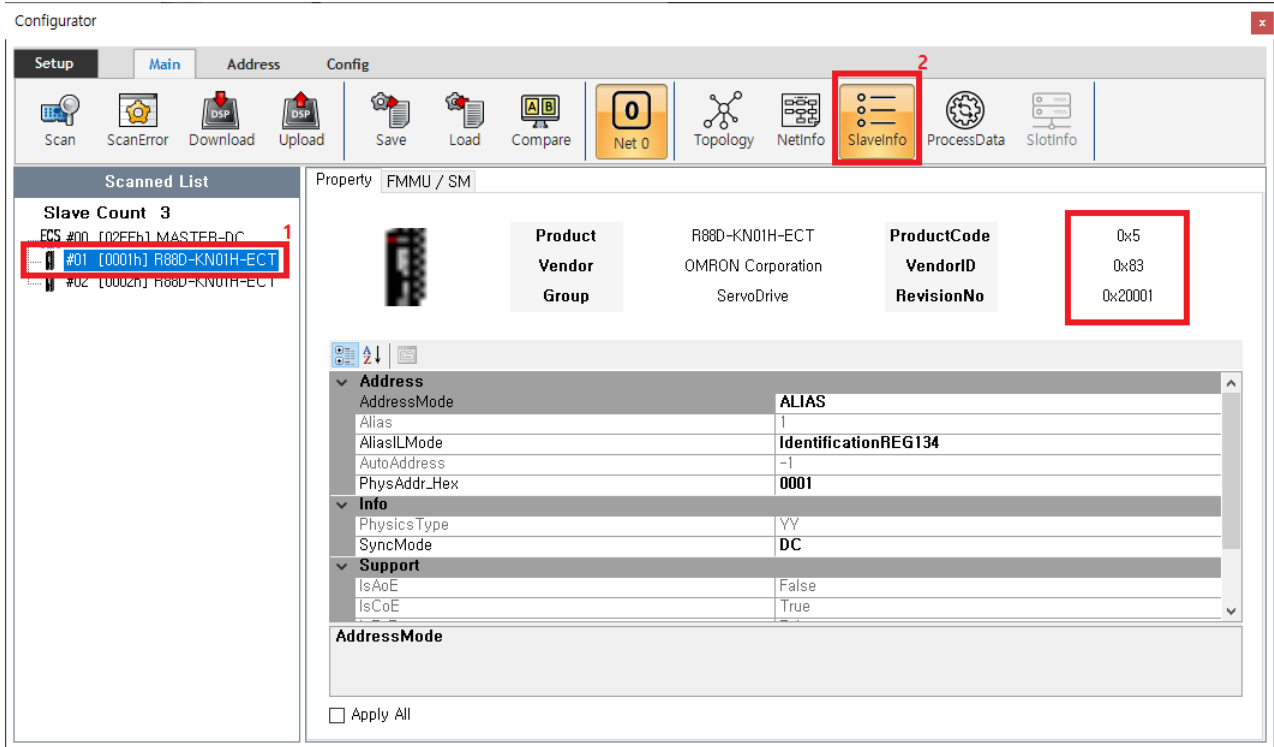
Index	Size	Name	Type
0x6040:00	2	Controlword	UINT
0x607A:00	4	Target position	DINT
0x60B8:00	2	Touch probe function	UINT
0x60FE:01	4	Physical outputs	UDINT

- SCAN을 진행하게 되면 각 슬레이브별로 'PDO Assignment' 가 자동으로 선택됩니다.
 - 자동으로 선택되는 항목은 슬레이브의 ESI 파일¹⁾에 지정되어 있습니다.
- 'PDO Contents' 항목에 원하는 항목이 없는 경우 슬레이브 별로 'PDO Assignment'를 변경해야 합니다.
 - 보통 토크제어를 하거나 현재 토크를 확인해야 하는 경우, 'Target Torque' 또는 'Current Torque' 항목이 포함된 PDO Map으로 변경합니다.
- 변경 후에도 SCAN을 다시 진행하면 esi 파일의 값을 읽기 때문에, 값은 초기화됩니다.
 - 기본값을 변경하기 위해서는 ESI 파일을 수정해야 합니다.

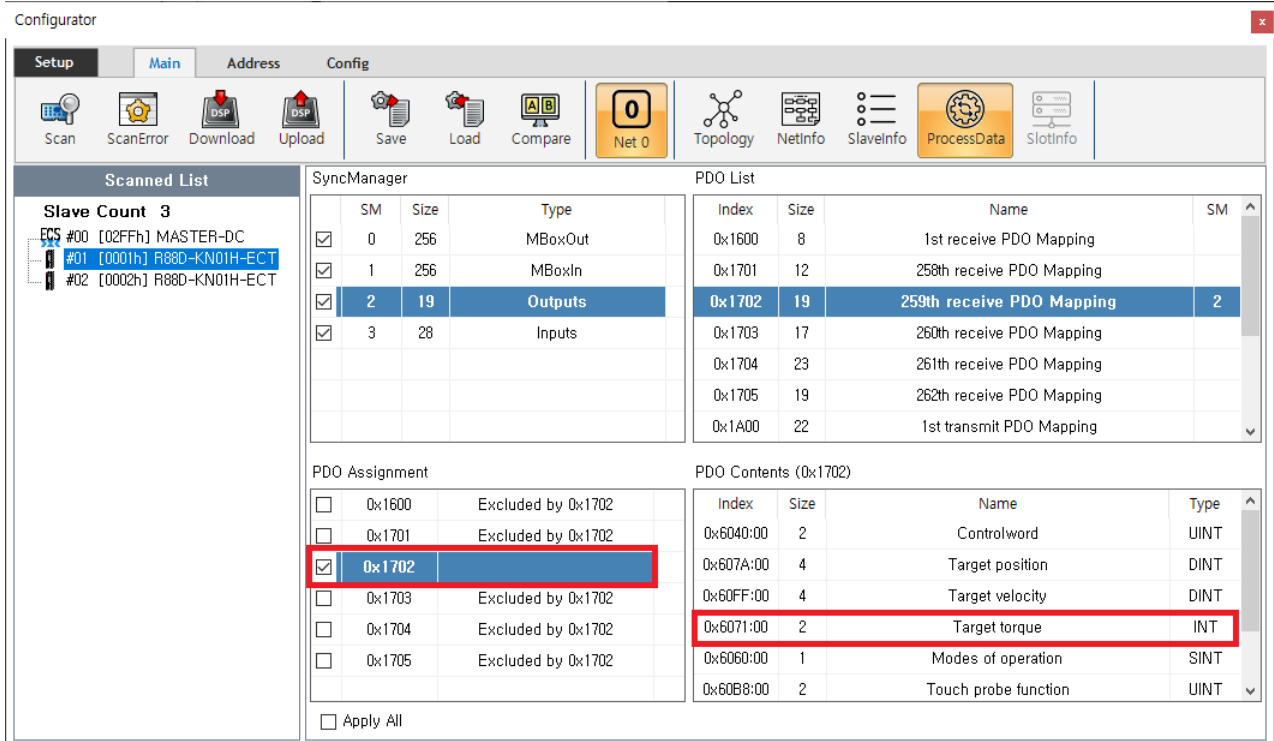
ESI File 수정

예시 환경은 다음과 같습니다.

- OMRON 드라이버 사용,
- Torque 제어 및 확인을 위해 PDO Map 변경



- 'SlaveInfo' 탭에서 ProductCode, RevisionNo를 확인합니다.



- 'ProcessData' 탭에서 변경해야 할 PDO Map을 확인합니다.
 - 예시의 경우 'Target Troque' 항목이 있는 Map 확인 : **0x1702**

```

1  <?xml version="1.0" encoding="utf-8"?>
2  <EtherCATInfo Version="1.4" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:noNamespaceSchemaLoca
3
4  <Vendor FileVersion="100">
5    <!--1.00:NewRelease-->
6    <Id>#x83</Id>
7    <Name LcId="1033">OMRON Corporation</Name>
8    <Name LcId="1041">オムロン 株式会社</Name>
9    <ImageData16x14>424DD60200000000000003600000028000000100000000E0000000100180000000000A00200000000000
10  </Vendor>
11  <Descriptions>
12    <Groups>
13      <Group SortOrder="100">
14        <Type>ServoDrive</Type>
15        <Name LcId="1033">Servo Drives</Name>
16        <Name LcId="1041">サロボドライブ</Name>
17        <ImageData16x14>424DD60200000000000003600000028000000100000000E0000000100180000000000A002000
18      </Group>
19    </Groups>
20    <Devices>
21      <Device Invisible="0" Physics="YY">
22      <Device Invisible="0" Physics="YY">
23      <Device Invisible="0" Physics="YY">
24      <Device Invisible="0" Physics="YY">
25      <Device Invisible="0" Physics="YY">
26      <Device Invisible="0" Physics="YY">
27      <Device Invisible="0" Physics="YY">
28      <Device Invisible="0" Physics="YY">
29      <Device Invisible="0" Physics="YY">
30      <Device Invisible="0" Physics="YY">
31      <Device Invisible="0" Physics="YY">
32      <Device Invisible="0" Physics="YY">
33      <Device Invisible="0" Physics="YY">
34      <Device Invisible="0" Physics="YY">
35      <Device Invisible="0" Physics="YY">
36      <Device Invisible="0" Physics="YY">
37      <Device Invisible="0" Physics="YY">
38      <Device Invisible="0" Physics="YY">
39      <Device Invisible="0" Physics="YY">
40      <Device Invisible="0" Physics="YY">
41      <Device Invisible="0" Physics="YY">
42      <Device Invisible="0" Physics="YY">
43      <Device Invisible="0" Physics="YY">
44      <Device Invisible="0" Physics="YY">
45      <Device Invisible="0" Physics="YY">
46      <Device Invisible="0" Physics="YY">
47      <Device Invisible="0" Physics="YY">
48      <Device Invisible="0" Physics="YY">
49      <Device Invisible="0" Physics="YY">
50      <Device Invisible="0" Physics="YY">
51      <Device Invisible="0" Physics="YY">
52      <Device Invisible="0" Physics="YY">
53      <Device Invisible="0" Physics="YY">
54      <Device Invisible="0" Physics="YY">
55      <Device Invisible="0" Physics="YY">
56      <Device Invisible="0" Physics="YY">
57      <Device Invisible="0" Physics="YY">
58      <Device Invisible="0" Physics="YY">
59      <Device Invisible="0" Physics="YY">
60      <Device Invisible="0" Physics="YY">
61      <Device Invisible="0" Physics="YY">
62      <Device Invisible="0" Physics="YY">
63      <Device Invisible="0" Physics="YY">
64      <Device Invisible="0" Physics="YY">
65      <Device Invisible="0" Physics="YY">
66      <Device Invisible="0" Physics="YY">
67      <Device Invisible="0" Physics="YY">
68      <Device Invisible="0" Physics="YY">
69      <Device Invisible="0" Physics="YY">
70      <Device Invisible="0" Physics="YY">
71      <Device Invisible="0" Physics="YY">
72      <Device Invisible="0" Physics="YY">
73      <Device Invisible="0" Physics="YY">
74      <Device Invisible="0" Physics="YY">
75      <Device Invisible="0" Physics="YY">
76      <Device Invisible="0" Physics="YY">
77      <Device Invisible="0" Physics="YY">
78      <Device Invisible="0" Physics="YY">
79      <Device Invisible="0" Physics="YY">
80      <Device Invisible="0" Physics="YY">
81      <Device Invisible="0" Physics="YY">
82      <Device Invisible="0" Physics="YY">
83      <Device Invisible="0" Physics="YY">
84      <Device Invisible="0" Physics="YY">
85      <Device Invisible="0" Physics="YY">
86      <Device Invisible="0" Physics="YY">
87      <Device Invisible="0" Physics="YY">
88      <Device Invisible="0" Physics="YY">
89      <Device Invisible="0" Physics="YY">
90      <Device Invisible="0" Physics="YY">
91      <Device Invisible="0" Physics="YY">
92      <Device Invisible="0" Physics="YY">
93      <Device Invisible="0" Physics="YY">
94      <Device Invisible="0" Physics="YY">
95      <Device Invisible="0" Physics="YY">
96      <Device Invisible="0" Physics="YY">
97      <Device Invisible="0" Physics="YY">
98      <Device Invisible="0" Physics="YY">
99      <Device Invisible="0" Physics="YY">
100     <Device Invisible="0" Physics="YY">
101       <Type ProductCode="#x00000005" RevisionNo="#x00020001">R88D-KN01H-ECT</Type>
102       <HideType ProductCode="#x00000005" RevisionNo="#x00020001">R88D-KN01H-ECT</HideType>
103       <HideType ProductCode="#x00000005" RevisionNo="#x00020001">R88D-KN01H-ECT</HideType>
104       <Name LcId="1033"><![CDATA[R88D-KN01H-ECT G5 Series ServoDrive/Motor]]></Name>
105       <Name LcId="1041"><![CDATA[R88D-KN01H-ECT G5 シリゾ サロボドライブ/モータ]]></Name>
106       <Comment LcId="1033">200V/100W ServoDrive</Comment>
107       <Comment LcId="1041">200V/100W サロボドライブ</Comment>
108       <URL LcId="1033">http://www.ia.omron.com/</URL>
109       <URL LcId="1041">http://www.fa.omron.co.jp/</URL>
110       <Info>
111         <StateMachine>
112         <Timeout>
113       </Info>
114     </Device>
115   </Devices>
116 </Descriptions>
117 </EtherCATInfo>

```

- XML Editor²⁾를 이용해 esi 파일을 열고, ProductCode와 RevisionNo가 일치하는 노드를 찾습니다.

XML Editor screenshot showing the configuration of the R88D-KN01H-ECT device. The XML code is displayed on the left, and the configuration tables are on the right.

SyncManager

SM	Size	Type
0	256	MBoxOut
1	256	MBoxIn
2	12	Outputs
3	28	Inputs

PDO List

Index	Size
0x1600	8
0x1701	12
0x1702	19
0x1703	17
0x1704	23
0x1705	19
0x1A00	22

PDO Assignment

Index	Size
0x1600	8
0x1701	12
0x1702	19
0x1703	17
0x1704	23
0x1705	19

PDO Contents (0x1701)

Index	Size
0x6040:00	2
0x607A:00	4
0x60B8:00	2
0x60FE:01	4

The XML code on the left shows the configuration for the R88D-KN01H-ECT device, including the ProductCode, RevisionNo, and the PDO configuration. The configuration tables on the right provide a visual overview of the device's capabilities and the assigned PDOs.

- '<RxPdo Fixed="0">' 형식으로 표시되는 항목은 'SyncManager'의 Outputs 항목입니다.
 - 'Sm="2"'로 표시된 노드가 자동 선택되는 노드입니다.

The screenshot displays a configuration tool interface with XML code on the left and two tables on the right.

XML Code (Left):

```

19 <Devices>
20 <Device Invisible="0" Physics="YY">
8135 <Device Invisible="0" Physics="YY">
16250 <Device Invisible="0" Physics="YY">
24365 <Device Invisible="0" Physics="YY">
32480 <Device Invisible="0" Physics="YY">
32481 <Type ProductCode="#x00000005" RevisionNo="#x00020001">R88D-KN01H-ECT</Type>
32482 <HideType ProductCode="#x00000005" RevisionNo="#x00020001">R88D-KN01H-ECT</HideType>
32483 <Name LcId="1033"><![CDATA[R88D-KN01H-ECT]]></Name>
32484 <Name LcId="1041"><![CDATA[R88D-KN01H-ECT]]></Name>
32485 <Comment LcId="1033">200V/100W Servo Drive</Comment>
32486 <Comment LcId="1041">200V/100W サーボモーター</Comment>
32487 <URL LcId="1033">http://www.ia.omron.com</URL>
32488 <URL LcId="1041">http://www.fa.omron.com</URL>
32489 <Info>
32490 <GroupType>ServoDrive</GroupType>
32516 <Profile>
39743 <Fmmu>Outputs</Fmmu>
39744 <Fmmu>Inputs</Fmmu>
39745 <Sm MinSize="40" MaxSize="256" DefaultSize="12" Sts="0">
39746 <Sm MinSize="40" MaxSize="256" DefaultSize="12" Sts="0">
39747 <Sm MaxSize="24" DefaultSize="12" Sts="0">
39748 <Sm MaxSize="30" DefaultSize="28" Sts="0">
39749 <RxPdo Fixed="0">
39783 <RxPdo Fixed="1">
39825 <RxPdo Fixed="1" Sm="2">
39891 <RxPdo Fixed="1">
39957 <RxPdo Fixed="1">
40039 <RxPdo Fixed="1">
40113 <TxPdo Fixed="0">
40178 <TxPdo Fixed="1" Sm="3">
40259 <TxPdo Fixed="1">
40340 <TxPdo Fixed="1">
40429 <TxPdo Fixed="1">
40518 <TxPdo Fixed="1">
40531 <Mailbox DataLinkLayer="1">
40532 <CoE SdoInfo="1" PdoAssign="1" PdoConfig="1" CompleteAccess="0" SegmentedSdo="1" DiagHistory="1">
40533 <InitCmd>
  
```

SyncManager Table (Right):

SM	Size	Type
☒ 0	256	MBoxOut
☒ 1	256	MBoxIn
☒ 2	19	Outputs
☒ 3	28	Inputs

PDO List Table (Right):

Index	Size	1st re
0x1600	8	1st re
0x1701	12	258th r
0x1702	19	259th re
0x1703	17	260th r
0x1704	23	261th r
0x1705	19	262th r
0x1A00	22	1st tra

PDO Assignment Table (Right):

Index	Size	1st re
0x1600	8	1st re
0x1701	12	258th r
0x1702	19	259th re
0x1703	17	260th r
0x1704	23	261th r
0x1705	19	262th r
0x1A00	22	1st tra

PDO Contents (0x1702) Table (Right):

Index	Size	1st re
0x6040:00	2	1st re
0x607A:00	4	T
0x60FF:00	4	T
0x6071:00	2	T
0x6060:00	1	Mod
0x60B8:00	2	Touc

- 다른 노드에 'Sm="2"' 를 추가할 경우, 해당 노드가 자동 선택됩니다.

The screenshot shows the EtherCAT Configurator interface. The main window displays the XML configuration for a device. A pop-up window titled 'SyncManager' is overlaid, showing the 'PDO List' and 'PDO Assignment' sections. In the 'PDO List', the 'Inputs' entry (SM 3, Size 28) is selected. In the 'PDO Assignment' section, the checkbox for '0x1B01' is checked, and a blue arrow points from this entry to the 'TxPdo Fixed=' field in the XML configuration, which is currently set to '0'.

- '<TxPdo Fixed="0">' 형식으로 표시되는 항목은 'SyncManager'의 Inputs 항목입니다.
- 'Sm="3"로 표시된 노드가 자동 선택되는 노드입니다.
- 변경 완료 후 저장합니다.
- Configurator를 재실행한 후 SCAN을 진행합니다.

1)

.xml 형태로 제공되는 슬레이브 설정 파일

2)

Notepad, Notepad++, Ultra Editor 등

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