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| Reference | FQ2_CJ2_Control |
| Revision | 1.0 |
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| Date | 03/07/2018 |
| + Support | http://support-omron.fr/ |

Control a vision system FQ2 via EthernetIP for CJ2-EIP PLC

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|-----------------|--|
| Function symbol | <p>Measure, change scene & send command to a FQ2</p> |
| File | FQ2_CJ2_Control.cxf |
| Principe | <p>The FB FQ2_Control regroup in one block several Read/Write commands used through EthernetIP Tags exchanged with the FQ2.</p> <p>The FB FQ2_Control allow :</p> <ul style="list-style-type: none"> - measurement - scene change - send command code (described after) <p>TRIG input executes measurement and the judgment is output to Over_Judgt output. Then the Data Output request bit (DSA) is activated to output data. If no Output Data have been configured in the FQ2, the flag Gate stay always OFF.</p> |
| EthernetIP | <p>The table of Tags can be created manually or downloaded using the following file FQ2_CJ2_Control.nvf.</p> <p>A E-Learning on Network Configurator is also available</p> |

1- Input/output variables of FQ2_NJ_Control

Input variables

| Name | type | range | Description |
|-------------|-------|------------|--------------------------------------|
| EN | Bool | OFF, ON | ON : FB activation |
| Start | Bool | OFF, ON | Démarre le contrôle (initialisation) |
| Scene_No | UDINT | 0 - 0032 | Scene number to send |
| Chg_Scene | Bool | | Command to change the scene |
| TRIG | Bool | OFF, ON | Execute Measure |
| Cmd_Code | DWORD | 0-FFFFFFFF | Command Code to send (see after) |
| Cmd_Execute | Bool | OFF, ON | Send command |

Output variables

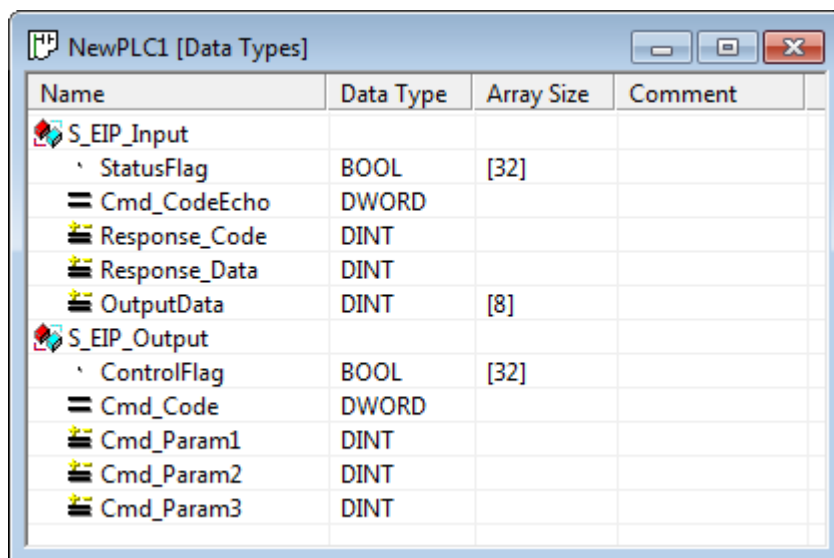
| Name | type | range | Description |
|------------|---------------------|------------|---|
| ENO | Bool | OFF, ON | ON : FQ2 in RUN mode |
| Busy | Bool | OFF, ON | FQ2 busy |
| Done | Bool | OFF, ON | - measure & result OK (Status flag OR) - change scene executed (checked) - command executed (Status flag FLG) |
| Err | Bool | OFF, ON | FQ2 in Error |
| Over_Judgt | Bool | OFF, ON | Overall judgment result not good |
| Resp_Code | UDINT | 0-FFFFFFFF | FQ2 response Code |
| Resp_Data | DINT | 0-FFFFFFFF | FQ2 response |
| Gate | Bool | OFF, ON | Data output completed |
| OutputData | ARRAY [0-7] DINT | 0-FFFFFFFF | Output data bloc |

FQ2 command code

| Code | Description |
|-----------|-------------------------------|
| 0010 1020 | Start continuous measurements |
| 0010 1030 | End continuous measurements |
| 0010 2010 | Clear measurement values |
| 0010 2020 | Clear data output buffer |
| 0010 3010 | Save data in sensor |
| 0010 4010 | Re-register model |
| 0010 4020 | Teach |
| 0010 F010 | Reset |
| 0020 5000 | Get latest error information |
| 0020 1000 | Get scene number |
| 0030 1000 | Select scene |

Structure declaration in the symbol table

Function block FQ2_CJ2_Control use 2 structures described below which have to be created in your Cx-P project.



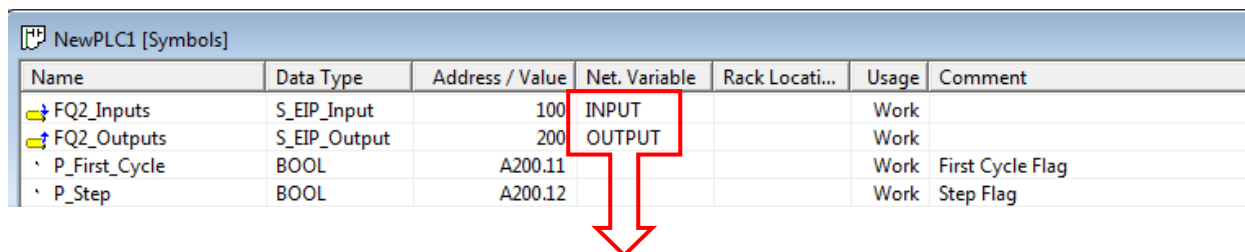
| Name | Data Type | Array Size | Comment |
|---------------|-----------|------------|---------|
| S_EIP_Input | | | |
| StatusFlag | BOOL | [32] | |
| Cmd_CodeEcho | DWORD | | |
| Response_Code | DINT | | |
| Response_Data | DINT | | |
| OutputData | DINT | [8] | |
| S_EIP_Output | | | |
| ControlFlag | BOOL | [32] | |
| Cmd_Code | DWORD | | |
| Cmd_Param1 | DINT | | |
| Cmd_Param2 | DINT | | |
| Cmd_Param3 | DINT | | |

Download [FQ2_CJ2_Control.cxp](#)

Symbol declaration in the global variables list

Symbol names should be strictly identical to those created in the EthernetIP table

[FQ2_CJ2_Control.nvf](#) configured with Network Configurator and the type should be declared as S_EIPInput et S_EIPOutput.



| Name | Data Type | Address / Value | Net. Variable | Rack Locati... | Usage | Comment |
|---------------|--------------|-----------------|---------------|----------------|-------|------------------|
| FQ2_Inputs | S_EIP_Input | 100 | INPUT | | Work | |
| FQ2_Outputs | S_EIP_Output | 200 | OUTPUT | | Work | |
| P_First_Cycle | BOOL | A200.11 | | | Work | First Cycle Flag |
| P_Step | BOOL | A200.12 | | | Work | Step Flag |

These variables should be published on the EthernetIP network as Input or Output

Annexe

Détail on S_EIPOutput et S_EIPInput structures used in the function block FQ2_Control

Définition de l'Union

| Data type name | Base type |
|----------------|-----------|
| U_EIPFlag | UNION |
| F | BOOL[32] |
| W | DWORD |

Structure of S_EIP_Input (48 bytes)

| Data type name | Base type | Destination device data |
|-----------------|-------------|---------------------------------|
| S_EIPInput | STRUCT | - |
| StatusFlag | U_EIPFlag | Status flags (32bit) |
| CommandCodeEcho | DWORD | Command code (CMD-CODE) |
| ResponseCode | UDINT | Response code (RES-CODE) |
| ResponseData | UDINT | Response data (RES-DATA) |
| OutputData | DINT[8] **1 | Output data 0 to 7 (DATA0 to 7) |

Structure of S_EIPOutput (20 bytes)

| Data type name | Base type | Destination device data |
|----------------|-----------|----------------------------------|
| S_EIPOutput | STRUCT | - |
| ControlFlag | U_EIPFlag | Control flags (32bit) |
| CommandCode | DWORD | Command code (CMD-CODE) |
| CommandParam1 | UDINT | Command parameter (CMD-PARAM) |
| CommandParam2 | UDINT | |
| CommandParam3 | DINT | |