

# Industrial communication solutions for Windows

## XSAMCPU2 Driver Manual

*Samsung FARA PLC CPU Port Protocol Driver*

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## XSAMCPU2 technical specifications

### General information

XSAMCPU2 driver allows you to connect to SAMSUNG N70plus and N700plus FARA PLCs through the CPU port in 2 level communication mode.

You can use the following port settings: 4800/9600/19200/38400,N,8,1. Suggested timeout is less than 3 seconds.

### Command list

#### Read Words (AI)

**Description of this command:**

- Reads the contents of the words assigned to the absolute address(R,L,M,K,F,W).
- Can read N consecutive words.

**Methods used to run this command:**

Analog Input

**Number of points accepted by this command:**

1-128

**Meaning of the DriverP0 parameter:**

Receiver ID Number (1-254)

**Meaning of the DriverP1 parameter:**

Sender ID Number (0-255)

**Meaning of the DriverP2 parameter:**

23h (hex) or 35 (dec)

**Meaning of the DriverP3 parameter:**

Starting absolute word address

- Example: For K127, enter 1BFh (hexa) or 447 (dec).

**Values that are returned:**

Value in PointValue (0) = First word value (0-65535)

Value in PointValue (1) = Second word value (0-65535)

- ...

#### Read Bits (DI)

**Description of this command:**

- Can read bits stored in the absolute address (R,L,M,K,F).
- Can read N consecutive bit contents (ON/OFF).

**Methods used to run this command:**

Digital Input

**Number of points accepted by this command:**

1-255

**Meaning of the DriverP0 parameter:**

Receiver ID Number (1-254)

**Meaning of the DriverP1 parameter:**

Sender ID Number (0-255)

**Meaning of the DriverP2 parameter:**

21h (hex) or 33 (dec)

**Meaning of the DriverP3 parameter:**

Starting absolute bit address

- Example: For K127.12, enter 1BFCh (hexa) or 7164 (dec).

**Values that are returned:**

Value in PointValue (0) = First bit value (0=OFF/1=ON)

Value in PointValue (1) = Second bit value (0=OFF/1=ON)

- ...

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## Write Words (AO)

### Description of this command:

- Changes the contents of the words assigned to the absolute address(R,L,M,K,F,W).
- Can change N consecutive word contents.

### Methods used to run this command:

Analog Output

### Number of points accepted by this command:

1-128

### Meaning of the DriverP0 parameter:

Receiver ID Number (1-254)

### Meaning of the DriverP1 parameter:

Sender ID Number (0-255)

### Meaning of the DriverP2 parameter:

24h (hex) or 36 (dec)

### Meaning of the DriverP3 parameter:

Starting absolute word address

- Example: For K127, enter 1BFh (hexa) or 447 (dec).

### Values that are sent:

Value in PointValue (0) = New first word value (0-65535)

Value in PointValue (1) = New second word value (0-65535)

- ...

## Write Bits (DO)

### Description of this command:

- Modifies the contents of the bits stored in the absolute address(R,L,M,K,F).
- Can change N consecutive bits.

### Methods used to run this command:

Digital Output

### Number of points accepted by this command:

1-255

### Meaning of the DriverP0 parameter:

Receiver ID Number (1-254)

### Meaning of the DriverP1 parameter:

Sender ID Number (0-255)

### Meaning of the DriverP2 parameter:

22h (hex) or 34 (dec)

### Meaning of the DriverP3 parameter:

Starting absolute bit address

- Example: For K127.12, enter 1BFCh (hexa) or 7164 (dec).

### Values that are sent:

Value in PointValue (0) = New first bit contents (0 or 1)

Value in PointValue (1) = New second bit contents (0 or 1)

- ...

## Absolute Address Designations

In LDR, DLDR, STO, DSTO instructions, absolute address is used so that the register address is indirectly designated when the communications port built in CPU is used.

*The address table shows the following columns:*

- Register address
- Absolute address (dec)
- Absolute address (hex)

*For external I/O, use the followig:*

- R0000 = 0 (dec) or 0000h (hex)
- R0001 = 1 (dec) or 0001h (hex)
- R0002 = 2 (dec) or 0002h (hex)
- R0126 = 126 (dec) or 007Eh (hex)
- R0127 = 127 (dec) or 007Fh (hex)

*For link area, use the followig:*

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- L0000 = 128 (dec) or 0080h (hex)
- L0001 = 129 (dec) or 0081h (hex)
- L0002 = 130 (dec) or 0082h (hex)
- L0062 = 190 (dec) or 00BEh (hex)
- L0063 = 191 (dec) or 00BFh (hex)

*For internal contact, use the following:*

- M0000 = 192 (dec) or 00C0h (hex)
- M0001 = 192 (dec) or 00C1h (hex)
- M0002 = 194 (dec) or 00C2h (hex)
- M0003 = 195 (dec) or 00C3h (hex)
- M0126 = 318 (dec) or 013Eh (hex)
- M0127 = 319 (dec) or 013Fh (hex)

*For power interrupt keep contact point, use the following:*

- K0000 = 320 (dec) or 0140h (hex)
- K0001 = 321 (dec) or 0141h (hex)
- K0002 = 322 (dec) or 0142h (hex)
- K0000 = 323 (dec) or 0143h (hex)
- K0126 = 446 (dec) or 01BEh (hex)
- K0127 = 447 (dec) or 01BFh (hex)

*For internal special contact, use the following:*

- F0000 = 448 (dec) or 01C0h (hex)
- F0001 = 449 (dec) or 01C1h (hex)
- F0002 = 450 (dec) or 01C2h (hex)
- F0126 = 462 (dec) or 01CEh (hex)
- F0127 = 462 (dec) or 01CFh (hex)

*For data area, use the following:*

- W0000 = 512 (dec) or 0200h (hex)
- W0001 = 513 (dec) or 0201h (hex)
- W0002 = 514 (dec) or 0202h (hex)
- W2046 = 2558 (dec) or 09FEh (hex)
- W2047 = 2559 (dec) or 09FFh (hex)

*For T/C set value, use the following:*

- W2048 = 2560 (dec) or 0A00h (hex)
- W2049 = 2561 (dec) or 0A01h (hex)
- W2303 = 2815 (dec) or 0AFFh (hex)

*For T/C present value, use the following:*

- W2304 = 2816 (dec) or 0B00h (hex)
- W2305 = 2817 (dec) or 0B01h (hex)
- W2559 = 3071 (dec) or 0BFFh (hex)

*For status display, use the following:*

- SR0 = 3072 (dec) or 0C00h (hex)
- SR1 = 3073 (dec) or 0C01h (hex)
- SR51 = 3583 (dec) or 0DFh (hex)

## Error messages

The following list shows the possible error messages that can be returned by the driver during a failed communication in the 'Status' property.

- [1005] DRIVER (Internal): Invalid driver stage
- [1300] PROTOCOL (Timeout): No answer
- [1415] PROTOCOL (Format): Invalid response format
- [1425] PROTOCOL (Format): Response is too short
- [1433] PROTOCOL (Format): Validation error in device response
- [2100] CONFIG (NumValues): Invalid number of bits requested (1-255)

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[2102] CONFIG (NumValues): Invalid number of bits to be written (1-255)  
[2132] CONFIG (NumValues): Invalid number of words requested (1-128)  
[2134] CONFIG (NumValues): Invalid number of words to be written (1-128)  
[3040] CONFIG (P0): Invalid receiver id number (1-254)  
[3569] CONFIG (P1): Invalid sender id number (0-255)  
[4040] CONFIG (P2): Invalid command (21h only)  
[4041] CONFIG (P2): Invalid command (22h only)  
[4042] CONFIG (P2): Invalid command (23h only)  
[4043] CONFIG (P2): Invalid command (24h only)  
[4568] CONFIG (P3): Invalid starting address (0-FFFFh or 0-65535)

## Supported devices

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This driver can communicate with these devices, but is not necessarily limited to this list:

SAMSUNG N70plus FARA PLC using CPU port  
SAMSUNG N700plus FARA PLC using CPU port  
SAMSUNG FARA PLC CPU Port 2 Level Mode

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