

# Industrial communication solutions for Windows

## XSAIAPCD Driver Manual

### *Saia PCD Series Point to Point Protocol Driver*

#### Contents

XSAIAPCD technical specifications .....	2
General information.....	2
Command list .....	2
Read Digital Inputs .....	2
Read Digital Outputs .....	2
Read Flags.....	2
Read Registers .....	2
Read Counters.....	3
Read Timers.....	3
Read PCD Status.....	3
Run Procedure.....	3
Stop Procedure .....	4
Restart Cold .....	4
Restart Warm.....	4
Clear .....	4
Write Digital Outputs .....	5
Write Flags.....	5
Write Registers.....	5
Write Counters .....	5
Write Timers.....	5
Error messages .....	6
Supported devices.....	6

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## XSAIAPCD technical specifications

### General information

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XSAIAPCD driver allows you to connect with SAIA PCD Series PLC. If you cannot communicate or if you are using RS-485 to connect to the device, you should set the RTS signal during the communication. This can be done by setting the RTSEnable argument when calling the read and write methods. If you still cannot communicate, check that your RS-485 cables are not inverted.

### Command list

---

#### Read Digital Inputs

**Description of this command:**

Obtain current status (ON/OFF) of one or more digital inputs.

**Methods used to run this command:**

Digital Input

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

1-16

**Meaning of the DriverP0 parameter:**

0

**Meaning of the DriverP1 parameter:**

Start Digital Input number (0-8191).

#### Read Digital Outputs

**Description of this command:**

Obtain current status (ON/OFF) of one or more digital outputs.

**Methods used to run this command:**

Digital Input

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

1-16

**Meaning of the DriverP0 parameter:**

1

**Meaning of the DriverP1 parameter:**

Start Digital Output number (0-8191).

#### Read Flags

**Description of this command:**

Obtain current status (ON/OFF) of one or more digital flags.

**Methods used to run this command:**

Digital Input

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

1-16

**Meaning of the DriverP0 parameter:**

2

**Meaning of the DriverP1 parameter:**

Start Flag number (0-8191).

#### Read Registers

**Description of this command:**

Obtain current value of one or more registers.

**Methods used to run this command:**

Analog Input

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

1-16

**Meaning of the DriverP0 parameter:**

3

**Meaning of the DriverP1 parameter:**

Start Register number (0-4095).

**Meaning of the DriverP2 parameter:**

Indicates the value type.

- 0 = The value is a signed integer (-2147483648 to 2147483647).

- 1 = The value is a floating point (-9.22337177E18 to 9.22337177E18).

## Read Counters

**Description of this command:**

Obtain current value of one or more counters.

**Methods used to run this command:**

Analog Input

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

1-16

**Meaning of the DriverP0 parameter:**

4

**Meaning of the DriverP1 parameter:**

Start Counter number (0-1599).

## Read Timers

**Description of this command:**

Obtain current value of one or more timers.

**Methods used to run this command:**

Analog Input

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

1-16

**Meaning of the DriverP0 parameter:**

5

**Meaning of the DriverP1 parameter:**

Start Timer number (0-450).

## Read PCD Status

**Description of this command:**

Obtain current PCD status.

**Methods used to run this command:**

Analog Input

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

1

**Meaning of the DriverP0 parameter:**

6

**Meaning of the DriverP1 parameter:**

CPU number (0-8).

**Values that are returned:**

- 67 = Conditional running.

- 68 = Disconnected.

- 72 = Halted.

- 82 = Running.

- 83 = Stopped.

## Run Procedure

**Description of this command:**

Sets the PLC in RUN mode.

**Methods used to run this command:**

Digital Output

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

1

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**Meaning of the DriverP0 parameter:**  
7

**Meaning of the DriverP1 parameter:**  
CPU number (0-8).

## Stop Procedure

**Description of this command:**

Sets the PLC in STOP mode.

**Methods used to run this command:**

Digital Output

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

1

**Meaning of the DriverP0 parameter:**

8

**Meaning of the DriverP1 parameter:**

CPU number (0-8).

## Restart Cold

**Description of this command:**

Restarts the PLC in cold mode.

**Methods used to run this command:**

Digital Output

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

1

**Meaning of the DriverP0 parameter:**

9

**Meaning of the DriverP1 parameter:**

CPU number (0-8).

## Restart Warm

**Description of this command:**

Restarts the PLC in warm mode.

**Methods used to run this command:**

Digital Output

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

1

**Meaning of the DriverP0 parameter:**

10

**Meaning of the DriverP1 parameter:**

CPU number (0-8).

## Clear

**Description of this command:**

Clears the selected type of elements.

**Methods used to run this command:**

Digital Output

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

1

**Meaning of the DriverP0 parameter:**

11

**Meaning of the DriverP1 parameter:**

Indicates the clear type.

- 0 = Clear all.
- 1 = Clear flags.
- 2 = Clear outputs.
- 3 = Clear registers.
- 4 = Clear timers and counters.

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## Write Digital Outputs

**Description of this command:**

Writes the status (ON/OFF) of one or more digital outputs.

**Methods used to run this command:**

Digital Output

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

1

**Meaning of the DriverP0 parameter:**

21

**Meaning of the DriverP1 parameter:**

Start Digital Output number (0-8191).

## Write Flags

**Description of this command:**

Writes the status (ON/OFF) of one or more digital flags.

**Methods used to run this command:**

Digital Output

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

1

**Meaning of the DriverP0 parameter:**

22

**Meaning of the DriverP1 parameter:**

Start Flag number (0-8191).

## Write Registers

**Description of this command:**

Writes the value of one or more registers.

**Methods used to run this command:**

Analog Output

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

1

**Meaning of the DriverP0 parameter:**

23

**Meaning of the DriverP1 parameter:**

Start Register number (0-4095).

**Meaning of the DriverP2 parameter:**

Indicates the value type.

- 0 = The value is a signed integer (-2147483648 to 2147483647).

- 1 = The value is a floating point (-9.22337177E18 to 9.22337177E18).

## Write Counters

**Description of this command:**

Writes the value of one or more counters.

**Methods used to run this command:**

Analog Output

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

1

**Meaning of the DriverP0 parameter:**

24

**Meaning of the DriverP1 parameter:**

Start Counter number (0-1599).

## Write Timers

**Description of this command:**

Writes the value of one or more timers.

**Methods used to run this command:**

Analog Output

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

1

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## Meaning of the DriverP0 parameter:

25

## Meaning of the DriverP1 parameter:

Start Timer number (0-450).

## Error messages

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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  
[1400] PROTOCOL (Format): Acknowledge not received  
[1433] PROTOCOL (Format): Validation error in device response  
[2147] CONFIG (NumValues): Only one value can be read or written  
[2189] CONFIG (NumValues): Too many values (max=16)  
[3001] CONFIG (P0): Invalid command  
[3507] CONFIG (P1): Invalid clear type  
[3547] CONFIG (P1): Invalid counter address  
[3548] CONFIG (P1): Invalid CPU number  
[3553] CONFIG (P1): Invalid flag address  
[3557] CONFIG (P1): Invalid Input address  
[3562] CONFIG (P1): Invalid output address  
[3568] CONFIG (P1): Invalid register address  
[3577] CONFIG (P1): Invalid timer address  
[4089] CONFIG (P2): Invalid read mode

## Supported devices

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

SAIA PLC PCD2 Series  
SAIA PLC PCD4 Series  
SAIA PLC PCD6 Series

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