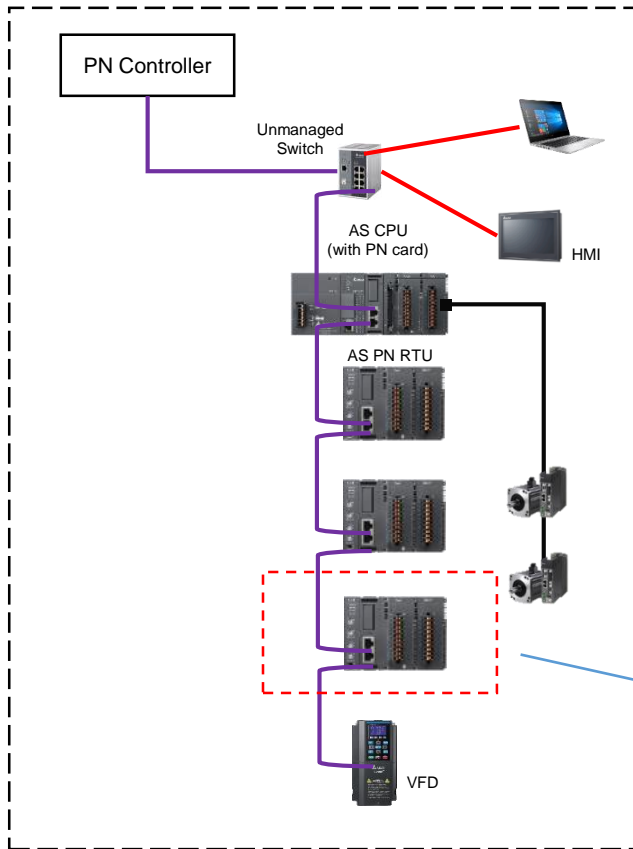


Delta PROFINET RTU  
AS-FPFN02 + AS00SCM-A  
Integration on Siemens  
TIA Portal



# AS PROFINET Solution



Siemens  
Controller



TIA portal

S7-1500

S7-1200

S7-300

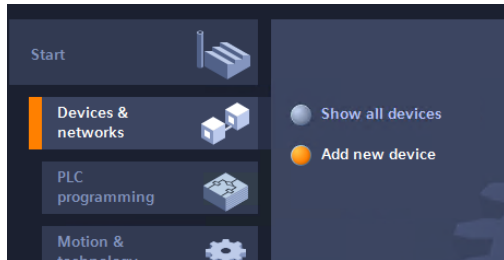


# Create a Project

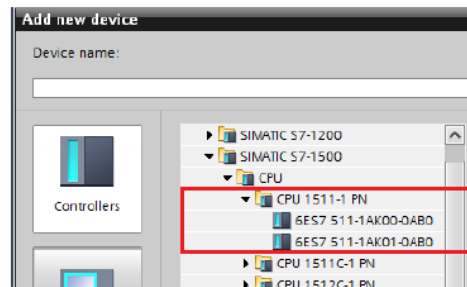
Add a controller

Install the GSDML file

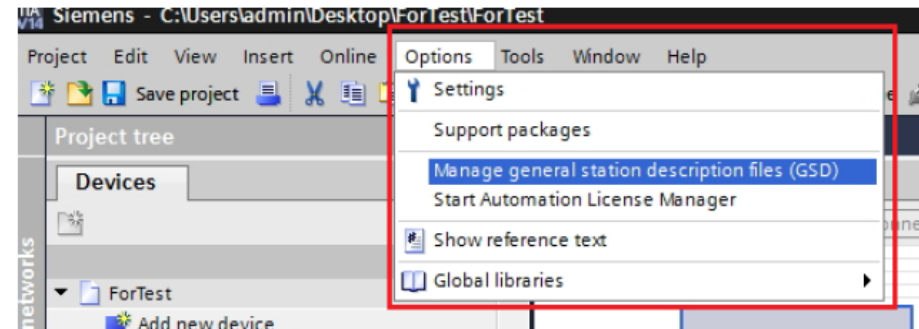
①



②



③



Keywords

AS-FPFN02 (RTU) 🔍

Submit

Electrical Parameter / AS Series PLC / PROFINET GSDML File

AS-FPFN02 (RTU)

GSDML file

Data Type : Electrical Parameter Language : English Issue Date : 2020-07-03

Electrical Parameter Version : V2.32 Device Firmware Version : V2.32

File

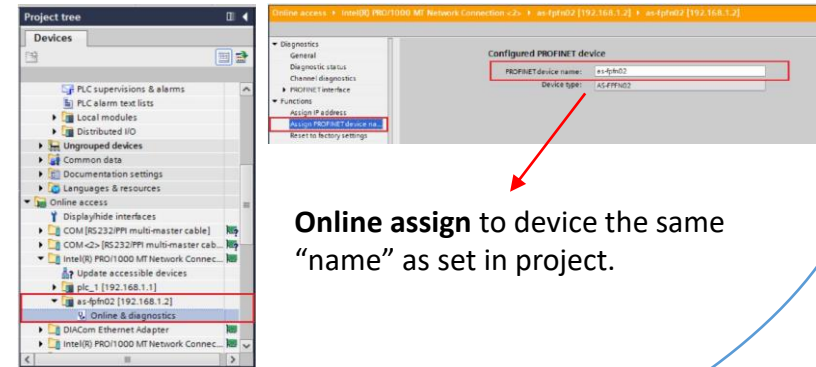
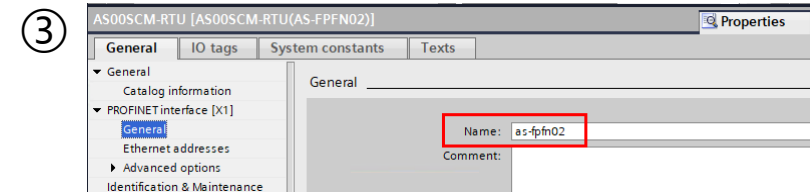
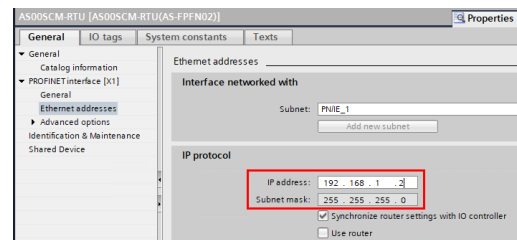
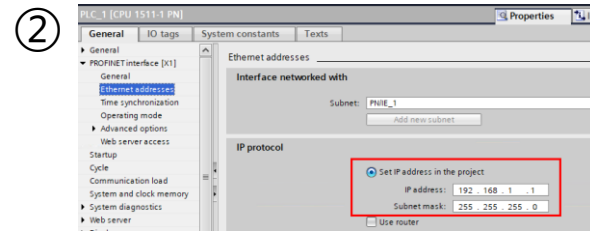
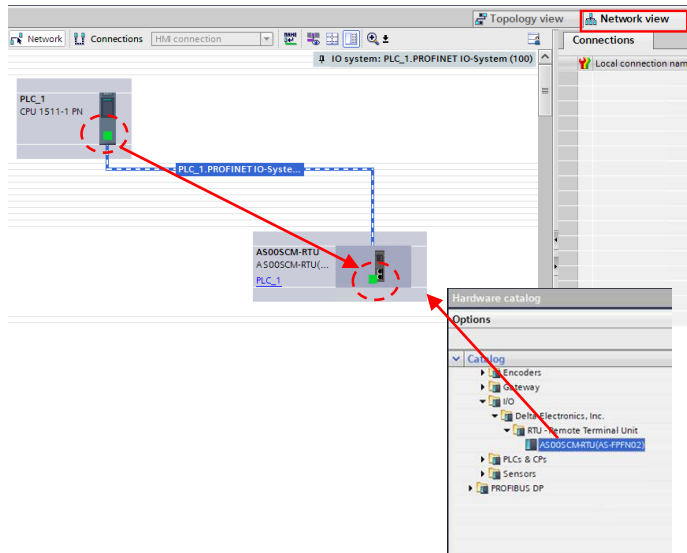
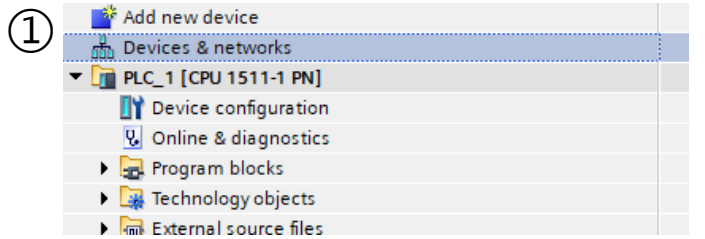
[Download link](#)

# Add an AS-RTU

Build a connection

Set IP address

Assign name



Online assign to device the same "name" as set in project.

Go online & download



# Setup extension module

Add modules  
Click and drag, or double-click

AS00SCM-RTU [AS00SCM-RTU(AS-PPFN02)]

Device overview

Module	Rack	Slot	I address	Q address
AS00SCM-RTU	0	0		
as-fpfn02	0	0 X1		
AS00SCM-A(AS-PPFN02)_1	0	1	0...19	0...19
AS06XA-A_1	0	2	20...39	20...39
AS08AD-B_1	0	3	40...79	40...79
AS04DA-A_1	0	4	80...83	40...75
AS16AP11P-A_1	0	5	84...85	76...77
AS08AM10N-A_1	0	6	86...87	
AS64AM10N-A_1	0	7	88...95	
AS08AN01P-A_1	0	8		78...79
AS64AN02T-A_1	0	9		80...87

Hardware catalog

Options

Filter Profile: <All>

▼ Catalog

- Head module
  - AS00SCM-RTU(AS-PPFN02)
- Module
  - Analog In/Outputs
    - AS06XA-A
  - Analog Inputs
    - AS04AD-A
    - AS04RTD-A
    - AS04TC-A
    - AS06RTD-A
    - AS08AD-B
    - AS08AD-C
    - AS08TC-A
  - Analog Outputs
    - AS04DA-A
  - Digital In/Outputs
    - AS16AP11P-A
    - AS16AP11R-A
    - AS16AP11T-A
  - Digital Inputs
    - AS08AM10N-A
    - AS16AM10N-A
    - AS32AM10N-A
    - AS64AM10N-A
  - Digital Outputs
    - AS08AN01P-A
    - AS08AN01R-A
    - AS08AN01T-A
    - AS16AN01P-A

Configure individual module

AS00SCM-RTU [AS00SCM-RTU(AS-PPFN02)]

Device overview

Module	Rack	Slot	I address	Q address
AS00SCM-RTU	0	0		
as-fpfn02	0	0 X1		
AS00SCM-A(AS-PPFN02)_1	0	1	0...19	0...19
AS06XA-A_1	0	2	20...39	20...39
AS08AD-B_1	0	3	40...79	40...75
AS04DA-A_1	0	4	80...83	40...75
AS16AP11P-A_1	0	5	84...85	76...77
AS08AM10N-A_1	0	6	86...87	
AS64AM10N-A_1	0	7	88...95	
AS08AN01P-A_1	0	8		78...79
AS64AN02T-A_1	0	9		80...87

AS06XA-A\_1 [AS06XA-A]

Properties

General

Format

Format: Integer Format

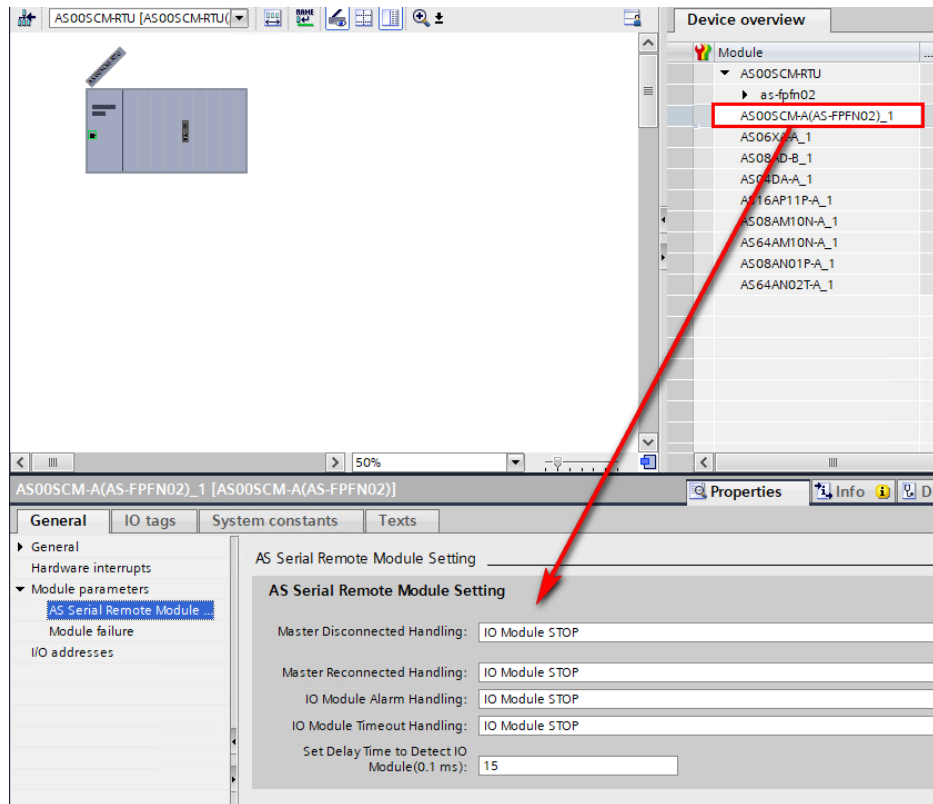
Input CH1 Float Scale LSP(only float use): -10.0000

Input CH1 Float Scale HSP(only float use): 10.0000

Input CH2 Float Scale LSP(only float use): -10.0000

Download again

# AS00SCM-A – Error handling



## When a Master **connection is lost**

- I/O modules stop running: all I/O modules stop running
- I/O modules keep the same state: all modules keep running

## When a Master has **reconnected** after the connection lost

- I/O modules stop running: all I/O modules stop running
- I/O modules keep the same state: all modules keep running

## When an **alarm occurs** in an I/O module

- I/O modules stop running: all I/O modules stop running (after resupply power to resume running)
- I/O modules keep the same state: all modules keep running

## When an **I/O module is lost**

- I/O modules stop running: all I/O modules stop running (after resupply power to resume running)
- I/O modules keep the same state: all modules keep running

# I/Q Address

Module	...	Rack	Slot	I address	Q address
AS00SCMRTU		0	0		
as-fpfn02		0	0 X1		
AS00SCM-A(AS-FPFN02)_1		0	1	0...19	0...19
AS06XA-A_1		0	2	20...39	20...39
AS08AD-B_1		0	3	40...79	
AS04DA-A_1		0	4	80...83	40...75
AS16AP11P-A_1		0	5	84...85	76...77
AS08AM10N-A_1		0	6	86...87	
AS64AM10N-A_1		0	7	88...95	
AS08AN01P-A_1		0	8		78...79
AS64AN02T-A_1		0	9		80...87

Slot1: Status register (%IW0~18)  
%QW0~%QW18 are reserved for system

Slot2~9: Data of I/O module

# I/Q Address – Status register

In the slot1:

%IW0~%IW18 are status registers

%QW0~%QW18 are reserved for system

Module	...	Rack	Slot	I address	Q address
AS00SCM-RTU		0	0		
as-fpfn02		0	0 X1		
AS00SCM-A(AS-FPFN02)_1		0	1	0...19	0...19
AS06XA-A_1		0	2	20...39	20...39
AS08AD-B_1		0	3	40...79	
AS04DA-A_1		0	4	80...83	40...75
AS16AP11P-A_1		0	5	84...85	76...77
AS08AM10N-A_1		0	6	86...87	
AS64AM10N-A_1		0	7	88...95	
AS08AN01P-A_1		0	8		78...79
AS64AN02T-A_1		0	9		80...87

Addresses	Description
%IW0	Status Register (1: Run / 0: Stop)
%IW2	AS00SCM-A Error Code
%IW4	1 <sup>st</sup> Extension module Error Code
%IW6	2 <sup>nd</sup> Extension module Error Code
%IW8	3 <sup>rd</sup> Extension module Error Code
%IW10	4 <sup>th</sup> Extension module Error Code
%IW12	5 <sup>th</sup> Extension module Error Code
%IW14	6 <sup>th</sup> Extension module Error Code
%IW16	7 <sup>th</sup> Extension module Error Code
%IW18	8 <sup>th</sup> Extension module Error Code



# I/Q Address – Status register

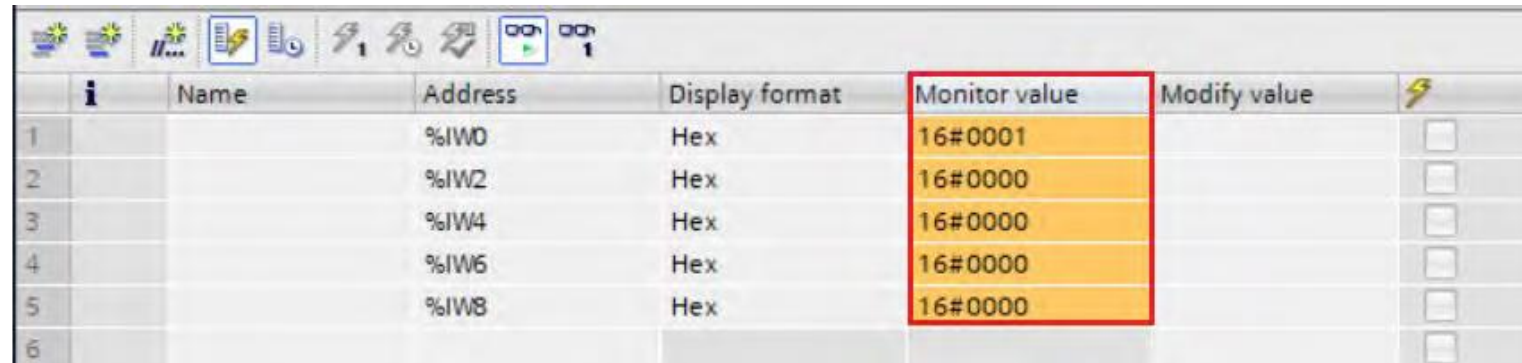
In the slot1:

%IW0 is the status register: run: 1/ stop: 0 (this part is missing in the manual).

%IW2~18 are error codes.

Status Register (Siemens S7-1500)	Name	Description
%IW2	Error Code	For AS00SCM-A
%IW4 - %IW18		For Slot 2 to slot 9

Example system is working properly



i	Name	Address	Display format	Monitor value	Modify value	⚡
1		%IW0	Hex	16#0001		<input type="checkbox"/>
2		%IW2	Hex	16#0000		<input type="checkbox"/>
3		%IW4	Hex	16#0000		<input type="checkbox"/>
4		%IW6	Hex	16#0000		<input type="checkbox"/>
5		%IW8	Hex	16#0000		<input type="checkbox"/>
6						<input type="checkbox"/>

# I/Q Address – Status register

Example system is on error:

Condition 1: Module 1 reports power alarm

i	Name	Address	Display format	Monitor value	Modify value
1		%IW0	Hex	16#0001	
2		%IW2	Hex	16#0000	
3		%IW4	Hex	16#1607	
4		%IW6	Hex	16#0000	
5		<Add new>			

Error code shown in **I/O module chapters**

16#1607	The external voltage is abnormal.
---------	-----------------------------------

Condition 2: Module 1 is disconnected from AS00SCM

i	Name	Address	Display format	Monitor value	Modify value
1		%IW0	Hex	16#0000	
2		%IW2	Hex	16#1503	
3		%IW4	Hex	16#1604	
4		%IW6	Hex	16#0000	
5		%IW8	Hex	16#0000	
6					

When a module is missing, 16#1604, which is an error code of AS00SCM, will be shown in the position of I/O module status register, to point out which module is missing. ( because SCM can't get information for the disconnected module anymore)

16#1503	Remote extension module communication timeout	Make sure the communication cable is well connected and the module is properly connected to the CPU module and turn the modules on again.
---------	---	---

Error code shown in **AS00SCM chapter**

16#1604	Extension module communication timeout	<ol style="list-style-type: none"> <li>1. Make sure the module is properly connected to the CPU module and turn the modules on again.</li> <li>2. If the problem persists, contact the local authorized distributors.</li> </ol>
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# Error code – AS00SCM-A

In the slot1:  
%IW2 error codes (for AS00SCM-A):

Error Code	Description	Solution
16#1301	Hardware failure	<ol style="list-style-type: none"> <li>1. Check if the module is securely installed.</li> <li>2. Change and install a new AS00SCM-A or contact the factory.</li> </ol>
16#1302	The function card setting is incorrect.	<ol style="list-style-type: none"> <li>1. Check if the function card is securely installed with the AS-FCOPM card.</li> <li>2. Change and install a new function card or contact the factory.</li> <li>3. Check if the setting in HWCONFIG is consistent with the function card setting.</li> <li>4. Install a new AS00SCM-A or contact the factory.</li> </ol>
16#1303	24VDC power supply had not been sufficient before and then recovered from low-voltage that was less than 10 ms.	Check whether the 24 V power supply to the module is normal.

Error Code	Description	Solution
16#140E	More than eight remote modules on the right side of the CPU module.	Check the total number of remote modules on the right side of the CPU module (maximum is 8).
16#1500	Remote module communication timeout	Make sure the communication cable is well connected
16#1502	Incorrect parameters	Check the parameter in HWCONFIG. Download the parameter again.
16#1503	Remote extension module communication timeout	Make sure the communication cable is well connected and the module is properly connected to the CPU module and turn the modules on again.
16#1505	The actual placement of the extension modules is NOT the same as it is set.	Check if the parameter in HWCONFIG is the same as the actual placement.
16#1604	Extension module communication timeout	<ol style="list-style-type: none"> <li>1. Make sure the module is properly connected to the CPU module and turn the modules on again.</li> <li>2. If the problem persists, contact the local authorized distributors.</li> </ol>

Error Code	Description	Solution
16#1506	Remote module had been stopped.	This indicates the remote module had been stopped before but the problem was cleared. The reasons for the remote module to stop include lost connection with the master, lost connection with the IO module, and alarm occurring in IO module. Refer to section 9.4.3 for more details.

# Error code – Extension module

In the slot1:

%IW4 ~ %IW18 error codes (for extension modules mounted on AS00SCM-A)

For example (AS08AD):

Error Code	Description	A → D LED Indicator	ERROR LED Indicator
16#1605	Hardware failure	OFF	ON
16#1607	The external voltage is abnormal.	OFF	ON
16#1608	The factory calibration is abnormal.	OFF	ON
16#1801	The external voltage is abnormal.	OFF	Blinking
16#1802	Hardware failure	OFF	Blinking
16#1804	The factory calibration is abnormal.	OFF	Blinking
16#1808	The signal received by channel 1 exceeds the range of inputs that the hardware can receive.		
16#1809	The signal received by channel 2 exceeds the range of inputs that the hardware can receive.		

16#180A	The signal received by channel 3 exceeds the range of inputs that the hardware can receive.	Run: blinking Stop: OFF	Blinking
16#180B	The signal received by channel 4 exceeds the range of inputs that the hardware can receive.		
16#180C	The signal received by channel 5 exceeds the range of inputs that the hardware can receive.		
16#180D	The signal received by channel 6 exceeds the range of inputs that the hardware can receive.		
16#180E	The signal received by channel 7 exceeds the range of inputs that the hardware can receive.		
16#180F	The signal received by channel 8 exceeds the range of inputs that the hardware can receive.		

# Data register – Digital I/O module

Module	Rack	Slot	I address	Q address
AS005CMRTU	0	0		
as-fpfn02	0	0 X1		
AS005CM-A(AS-FPFN02)_1	0	1	0...19	0...19
AS06XA-A_1	0	2	20...39	20...39
AS08AD-B_1	0	3	40...79	
AS04DA-A_1	0	4	80...83	40...75
AS16AP11P-A_1	0	5	84...85	76...77
AS08AM10N-A_1	0	6	86...87	
AS64AM10N-A_1	0	7	88...95	
AS08AN01P-A_1	0	8		78...79
AS64AN02T-A_1	0	9		80...87

Type	Module name	Occupied (bit)		Functional (bit)	
		I	Q	I	Q
Digital input	AS08AM10N-A	16	0	8	0
	AS16AM10N-A	16	0	16	0
	AS32AM10N-A	32	0	32	0
	AS64AM10N-A	64	0	64	0
Digital output	AS08AN01P-A AS08AN01R-A AS08AN01T-A	0	16	0	8
	AS16AN01P-A AS16AN01R-A AS16AN01T-A	0	16	0	16
	AS32AN02T-A	0	32	0	32
	AS64AN02T-A	0	64	0	64
Digital input/output	AS16AP11P-A AS16AP11R-A AS16AP11T-A	16	16	16	16

# Data register – Analog I/O module

Module	Rack	Slot	I address	Q address
AS005CMRTU	0	0		
▶ as-fpfn02	0	0 X1		
AS005CM-A(AS-FPFN02)_1	0	1	0...19	0...19
AS06XA-A_1	0	2	20...39	20...39
AS08AD-B_1	0	3	40...79	
AS04DA-A_1	0	4	80...83	40...75
AS16AP11P-A_1	0	5	84...85	76...77
AS08AM10N-A_1	0	6	86...87	
AS64AM10N-A_1	0	7	88...95	
AS08AN01P-A_1	0	8		78...79
AS64AN02T-A_1	0	9		80...87

Type	Module name	Occupied (word)		Functional (word)		
		I	Q	I		Q
				Error code	Data	Data
Analog input	AS04AD-A AS04RTD-A AS04TC-A	20	0	2	8	0
	AS06RTD-A	20	0	2	12	0
	AS08AD-B AS08AD-C AS08TC-A	20	0	2	16	0
Analog output	AS04DA-A	2	18	2	0	8
Analog input/output	AS06XA-A	10	10	2	8	4

# Data register – 4-channel I/O module

**AS04AD-A**

**AS04RTD-A**

**AS04TC-A**

%IWxx ~ %IWxx data exchange

Addresses	Description
%IWxx+0 & %IWxx+2	Error Code
%IWxx+4 & %IWxx+6	CH1 Input
%IWxx+8 & %IWxx+10	CH2 Input
%IWxx+12 & %IWxx+14	CH3 Input
%IWxx+16 & %IWxx+18	CH4 Input

**AS04DA-A**

%IWxx ~ %IWxx data exchange

%QWxx ~ %QWxx data exchange

Addresses	Description
%IWxx+0 & %IWxx+2	Error Code
%QWxx+0 & %QWxx+2	CH1 Output
%QWxx+4 & %QWxx+6	CH2 Output
%QWxx+8 & %QWxx+10	CH3 Output
%QWxx+12 & %QWxx+14	CH4 Output

# Data register – 6-channel I/O module

## AS06RTD-A

%IWxx ~ %IWxx data exchange

Addresses	Description
%IWxx+0 & %IWxx+2	Error Code
%IWxx+4 & %IWxx+6	CH1 Input
%IWxx+8 & %IWxx+10	CH2 Input
%IWxx+12 & %IWxx+14	CH3 Input
%IWxx+16 & %IWxx+18	CH4 Input
%IWxx+20 & %IWxx+22	CH5 Input
%IWxx+24 & %IWxx+26	CH6 Input

## AS06XA-A

%IWxx ~ %IWxx data exchange  
%QWxx ~ %QIWxx data exchange

Addresses	Description
%IWxx+0 & %IWxx+2	Error Code
%IWxx+4 & %IWxx+6	CH1 Input
%IWxx+8 & %IWxx+10	CH2 Input
%IWxx+12 & %IWxx+14	CH3 Input
%IWxx+16 & %IWxx+18	CH4 Input
%QWxx+0 & %QWxx+2	CH1 Output
%QWxx+4 & %QWxx+6	CH2 Output



# Data register – 8-channel I/O module

**AS08AD-B/C**

**AS08TC-A**

%IWxx ~ %IWxx data exchange

Addresses	Description
%IWxx+0 & %IWxx+2	Error Code
%IWxx+4 & %IWxx+6	CH1 Input
%IWxx+8 & %IWxx+10	CH2 Input
%IWxx+12 & %IWxx+14	CH3 Input
%IWxx+16 & %IWxx+18	CH4 Input
%IWxx+20 & %IWxx+22	CH5 Input
%IWxx+24 & %IWxx+26	CH6 Input
%IWxx+28 & %IWxx+30	CH7 Input
%IWxx+32 & %IWxx+34	CH8 Input

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