# ibaPDA-Interface-Profinet

Interface to Profinet over CP1616



# Quick Guide

Issue 1.0

Measurement and Automation Systems



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The current version is available for download on our web site http://www.iba-ag.com.

## Protection note

Windows® is a label and registered trademark of the Microsoft Corporation. Other product and company names mentioned in this manual can be labels or registered trademarks of the corresponding owners.

#### Certification

The device is certified according to the European standards and directives. This device corresponds to the general safety and health requirements. Further international customary standards and directives have been observed.

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# 1 About this guide

This guide describes the configuration of the software interface ibaPDA-Interface-Profinet in ibaPDA-V6.

# 1.1 Target group

This guide addresses in particular the qualified professionals who are familiar with handling electrical and electronic modules as well as communication and measurement technology. A person is regarded to as professional if he/she is capable of assessing safety and recognizing possible consequences and risks on the basis of his/her specialist training, knowledge and experience and knowledge of the standard regulations.

# 1.2 Designations

The following designations are used in this guide:

Action	Designations
Menu command	Menu "Logic diagram"
Call of menu command	"Step 1 – Step 2 – Step 3 – Step x"
	Example:
	Select menu "Logic diagram – Add – New logic di- agram "
Keys	<key name=""></key>
	Example: <alt>; <f1></f1></alt>
Press keys simultaneously	<key name=""> + <key name=""></key></key>
	Example:
	<alt> + <strg></strg></alt>
Buttons	<button name=""></button>
	Example:
	<ok>; <cancel></cancel></ok>
File names, Paths	"File name", "Path"
	Example:
	"Test.doc"

# 1.3 Used symbols

If safety instructions or other notes are used in this guide, they mean:

# 

The non-observance of this safety information may result in an imminent risk of death or severe injury:

- By an electric shock!
- Due to the improper handling of software products which are coupled to input and output procedures with control function!

If you do not observe the safety instructions regarding the process and the system or machine to be controlled, there is a risk of death or severe injury!

# A WARNING

The non-observance of this safety information may result in a potential risk of death or severe injury!

# 

The non-observance of this safety information may result in a potential risk of injury or material damage!



## Note

A note specifies special requirements or actions to be observed.



#### Important note

Note if some special features must be observed, for example exceptions from the rule.



# Тір

Tip or example as a helpful note or insider tip to make the work a little bit easier.



## Other documentation

Reference to additional documentation or further reading.



# 2 Introduction

The Profinet interface of ibaPDA-V6 uses the CP1616 board from Siemens.

The card is used as a Profinet controller.

ibaPDA-V6 only supports IRT controller - controller communication, but no RT communication.

ibaPDA-V6 supports up to 4 CP1616 cards in 1 computer.



#### Important note

The CP1616 card is supported under Windows XP only.

Operation with Windows Vista, Windows 7, Windows Server 2008 is not supported.

# 3 CP1616 interface

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Click to add module       Consiguration       Period's view         Click to add module       Click to add module       Reset       Open log file         Dia FDB 20X PCI       IRT interrupts:       108516       RT interrupts:       25       Dump firmware trace buffer         Dia FDB 20X PCI       IRT interrupts:       108516       RT interrupts:       25       Dump firmware trace buffer         Dia FDB 20X PCI       IRT counters:       New cycle:       0       Status:       0,000 µs       Max:       0,000 µs       Reset counters         Dia FDB 20X PCI       IRT counters:       New cycle:       0       Status:       0,000 µs       Min:       0,000 µs       Max:       0,000 µs       Reset counters         Dia FDB 20X PCI       IRT counters:       New cycle:       0       Status:       0,000 µs       Max:       0,000 µs       Reset counters         Click to add module       Status       Click to add module       Status       IRT first 1000         Status       Status       IRT first 1000       Status       IRT first 1000         Status       Status       IRT first 1000       Status       IRT first 1000         Status       Status       IRT first 1000       Status       IRT first 1000       Statu	🖃 🔢 CP1616	CP1616						
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IRT interrupts:       108516       RT interrupts:       25       Dump frmware trace buffer         IRT interrupts:       Link 1       IRT counters:       New cycle:       0       Startop:       108516       Opfault:       1         IRT interrupts:       Link A       IRT counters:       New cycle:       0       Startop:       108516       Opfault:       1         IRT counters:       New cycle:       0       Startop:       108516       Opfault:       1         IRT counters:       New cycle:       0       Startop:       108516       Opfault:       1         IRT counters:       New cycle:       0       Startop:       108516       Opfault:       1         IRT counters:       New cycle:       0       Startop:       108516       Opfault:       1         IRT counters:       New cycle:       0       Startop:       108516       Opfault:       1         IRT counters:       New cycle:       0       Startop:       108516       Max:       0,000 µs       Reset counters         IRT counters:       Startop:       Startop:       Startop:       Startop:       Startop:       Startop:       Node       Cycle time (µs)         Str Analyzer       Starto add module	HPCi Request	Status:	PDA-UPPER : Online				Reset	Open log file
Image: Start 1       Image: Start 2       Imag		IRT interrupts:	108516	RT inter	rupts: 25		Dump firmware	e trace buffer
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Address       Length       Station       Slot       Subslot       Mode       Cycle time (µs)         Image: Click to add module		IRT copy time: A	Actual: 0,000 µ	us Min:	0,000 µs	Max:	0,000 µs	Reset counters
Image: Control of the contr		Address	Length	Station	Slot	Subslot	Mode	Cycle time (µs)
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Solution		576	16	1	2	1	IRT	1000
Click to add module         608         16         1         4         1         IRT         1000           ▲ Vitual         624         16         1         5         1         IRT         1000           ▲ Click to add module         700         16         1         1         1         IRT         1000		592	16	1	3	1	IRT	1000
Image: Second		608	16	1	4	1	IRT	1000
◆ XPact		624	16	1	5	1	IRT	1000
		700	16	1	1	1	IRT	1000

#### Figure 1

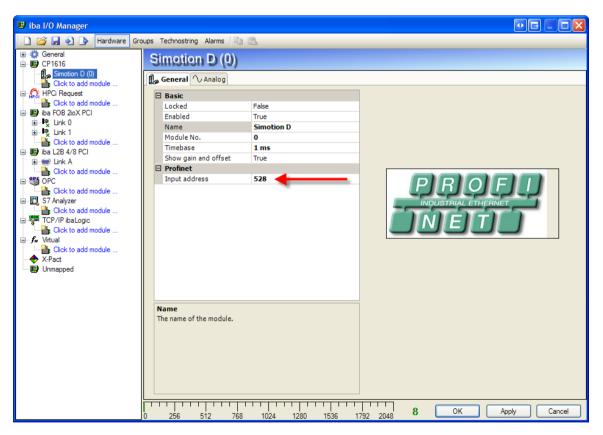
The screenshot shows the diagnostics of the CP1616 card. The diagnostics show the current configuration that has been loaded on the card via the Siemens NetPro program.

- Status: shows the name of the controller and the status of the controller (online or offline).
- Receiver table (I/O:IN): shows an overview of all the configured receivers on the card. A receiver has a green background if there is a connection. It has a red background if there is no connection.
- □ Interrupt counters: show the number of IRT and RT interrupts

- IRT counters: show the number of times newcycle, startop and opfault have occurred
- IRT copy time: shows the time it takes to copy the incoming Profinet data from the card to the computer's memory. The timing is only done when the acquisition is running.
- Reset button: resets the card
- Open log file button: opens the Profinet log file.
- Dump firmware trace buffer: Pressing this button writes the firmware trace buffer in a text file. ibaPDA-V6 has the ability to detect CP1616 firmware exceptions automatically. When ibaPDA-V6 detects such an exception it will dump the firmware
- trace buffer automatically. ibaPDA-V6 will also add an error message to the event log.
- Reset counters button: resets the all the diagnostic counters and copy times

# 3.1 Simotion D module

The Simotion D module is a Profinet module created for 1 drive connected to a SIMO-TION D controller. There can be a maximum of 1024 modules mapped to the CP1616 interface card.



#### Figure 2

On the general tab you should configure the input address. This input address is the address you've configured for the receiver in NetPro before. You can also see the address in the diagnostic's receiver table (I/O:IN) of the CP1616 interface (see Figure 1).

🙂 iba I/O Manager					•	
	oups Technostring Alarms 🗈 🏝					
	Simption D (0)					
Simotion D (0)	General 🔨 Analog					
Click to add module	Name	Unit	Gain	Offset	Active	Actual
Field Click to add module	0 (60) N_SOLL	1/min	:	L 0	<b>V</b>	0
iba FOB 2ioX PCI	1 (62) N_SOLL_GES	1/min		ι ο	<b>V</b>	9380
⊞⊶ ®g, Link 0 ⊡⊶ ®g, Link 1	2 (63.0) N_IST_UNGL	1/min	1	L 0		18760
Click to add module	3 (1516) TQ_ADD	Nm	1	L 0	~	28140
🖃 🔢 iba L2B 4/8 PCI	4 (80.0) TQ_ACT	Nm	1	L O		-28016
Link A Click to add module	5 (68.0) I_ACT	Aeff	1	ι ο		-18636
Click to add module	6 (1547.0) M_LIM	Nm	1	L 0	<b>V</b>	-9256
Click to add module	7 (1508) NCONT_OUT	Nm	1	ι ο		124
Click to add module TCP/IP ibaLogic Click to add module ↓ ↓ ↓ Click to add module ↓ ↓ ↓ Click to add module ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓						
	0 256 512 768 1024 1280 1536 1792 2048	8	OK	Арр	ly (	Cancel

#### Figure 3

The Simotion D module has 8 analog signals of data type INT (16 bit signed integer). The signals have a default name, unit and comment. These properties can be changed if the defaults are not correct.

The Actual column shows the current value received via Profinet. If the connection is ok then the values have a black color. If the connection is not ok then the values have a red color. If the input address is not available then "Unknown" appears in the Actual column (Figure 5).

# Ę



# 3.2 Generic Profinet controller module

The generic Profinet controller module has a variable number of analog and digital signals. You can set the number of signals according to your needs. (Figure 4)

The input address and the data type of each analog signal can be configured. (Figure 5)

The input address and bit number of each digital signal can be configured. (Figure 6)

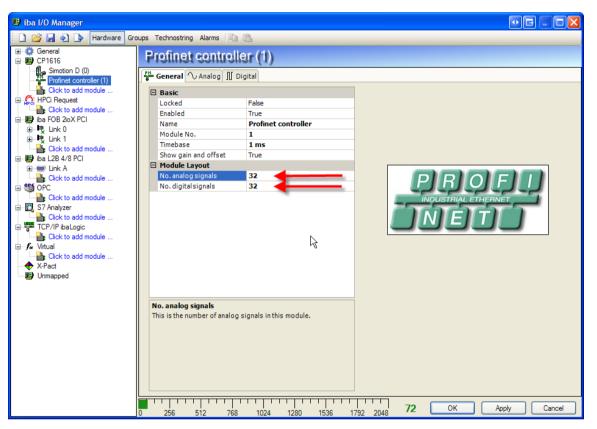


Figure 4

🔢 iba I/O Manager							•		×
🗄 🗋 对 🛃 🌖 🌗 Hardware Gro	pups Technostring Alarms 📑 📸								
	Profinet controller (1)								
Profinet controller (1)	General 🔨 Analog 👖 Digital								
Click to add module	Name	Unit	Gain	Offset	Address	DataType	Active	Actual	^
	0		1	0	544	INT		Unknown	
Click to add module iba FOB 2ioX PCI	1		1	0	546	INT		Unknown	
ia rob zio∧ rei ia iii iii iii iii iii iiii iiii iiii	2		1	0	548	INT	<b></b>	Unknown	
	3		1	0	550	INT	<b>V</b>	Unknown	
Click to add module	4		1	0	552	INT		Unknown	
iba L2B 4/8 PCI	5		1	0	554	INT	<b>V</b>	Unknown	
Click to add module	6		1	0	556	INT		Unknown	
	7		1	0	558	INT		Unknown	
Click to add module	8		1	0	560	INT		Unknown	
S7 Analyzer	9		1	0		INT		Unknown	
Click to add module Click to add module	10		1	0		INT		Unknown	
Click to add module	11		1	0		INT		Unknown	
	12		1	0		INT		Unknown	4
Click to add module			-	-					
X-Pact	13		1	0		INT		Unknown	
on mapped	14		1	0		INT		Unknown	
	15		1	0		INT		Unknown	
	16		1	0	576	INT		C	1
	17		1	0	578	INT 🔽	<b>×</b>	32394	
	18		1	0	580	BYTE		-748	3
	19		1	0	582	INT		31646	;
	20		1	0	584			-1496	5
	21		1	0	586			30898	3
	22		1	0	588	FLOAT		-2244	4
	23		1	0	590	INT		30150	~
	0 256 512 768 1024 1280	1536	1792 2		2 ОК	Ap	ply	Cancel	

Quick Guide

Figure 5

🛿 iba I/O Manager			. ↓ E	
🗋 💕 🛃 🌒 🌗 Hardware	Groups Technostring Alarms 📳 🖺			
🗄 🔅 General	Profinet controller (1)			
🖃 🄢 CP1616	Provinsi controlisi (1)			
Simotion D (0)	General 🔨 Analog 🔟 Digital			
Click to add module	Name	Address	Bit no. Active	Actual
🖃 👧 HPCi Request	0	576	0 🔽	0
Click to add module	1	576	1 🔽	0
iba FOB 2ioX PCI	2	576	2 🗹	0
⊞… ॡिLink 0 ⊞… ॡिLink 1	3	576		1
Click to add module	4	576		1
🖃 🔢 iba L2B 4/8 PCI	5	576		0
🗄 🖮 Link A	6			-
Click to add module		576		0
Click to add module	7	576	· · ·	1
S7 Analyzer	8	576		1
Click to add module	9	576	9 🗹	0
TCP/IP ibaLogic	10	576	10 🔽	0
Click to add module	11	576	11 🗹	0
Click to add module	12	576	12 🔽	1
	13	576	13 🔽	1
🏢 Unmapped	14	576	14 🗸	1
	15	576		1
	16	576		0
	17	576		0
	17			-
		576		0
	19	576		0
	20	576		0
	21	576		0
	22	576	22 🗹	0
	23	576	23 🔽	0
	0 256 512 768 1024 1280 1536 1792 2048	72 OK	Apply	Cancel

Figure 6

4 Support and Contact

## Support

Phone:	+49 911 97282-14
Fax:	+49 911 97282-33
E-Mail:	support@iba-ag.com



# Note

If you require support, specify the serial number (iba-S/N) of the product.

# Contact

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