

APPLICATION NOTE PNOZmulti Fieldbus Connection

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PNOZmulti_Fieldbus V5.doc

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1 HISTORY

Datum	Versions-Nr.	Auslöser (N./A.)	betr. Kapitel	Grund der Änderung
13.09.2004	1.0	Bauer/Letsche	All	
14.12.04	1.1	Letsche	Omron	
02.02.05	1.2	Christ	9	Ethernet mc8p
13.10.2006		Hohlbauch	10	Profinet mc9p
05.01.2007		Hohlbauch	10	Erweiterung Profinet mc9p

2 Scope

This document describes the fieldbus communication of PNOZ multi. It is based on the developing documents. The document is subject to change without further notice.

The document is not intended as a technical documentation for general use of the fieldbus modules for the PNOZmulti. It may not be distributed to customers without a special note to its scope.

3 Introduction

3.1 Structure of Bus Connection

The PNOZmulti uses a common profile based on 20 bytes input and 20 bytes output using the process data channel for the following fieldbuses:

- Profibus-DP
- DeviceNet
- Interbus-S
- CC-Link (24 bytes)

Note: CANopen is handled differently

The Fieldbus module of the PNOZ multi sends an "output data block" and receives an "input data block" . with each OS-cycle.

Each data block consists of 20 bytes. The first three bytes are used for user bit data, the next one is for status bits and 15 bytes are used for Table transfer and one byte as Control bits.



3.1.1 User I/O Bit Data

A part of the data blocks will be processed in PNOZmulti as fieldbus flags. The first three bytes of the input data block and the first three bytes of the output data block are user bit data.

3.1.1.1 Assignment of the I/O Bit Data

In the first step, (V3.0) the user can only assign 24 flags of the PNOZmulti and internal flags to the output data block. The transfer of bits to the Multi into the input data block is realized in a later version.

😇 Unbenannt0* - PNOZmulti Configurator	
Datel Bearbeiten Ansicht Online Hilfe	
🤗 🔤 🐚 🚱 💽 🖬 🖬 🗗 🖸 🕅 🛄 🕒 💭	
	base.04.
pare. il	
	Profibus O.0
	Profibus 0,1
ase.13.	Profibus 0.2
Profibus I.1	
	Seite 1
	<u> </u>

The user can choose the fieldbus bit in the same process using "set active"

The user can assign each internal flag of PNOZmulti to the fieldbus bits.

In the diagram "Profibus" is the name that the user has given to the fieldbus module during the configuration in the window "Select Base and Expansion Modules".

The "O" and "I" after mean Output and Input. There are 24 bits as output.

In the same way for "Set input and outputs active", the fieldbus bits can have comments. It will be displayed like the others symbolic names For example: "Profibus O.2.Main E-Stop"

"Profibus" is the name of the module. "O" means Output. "2" means the bit 2 of the module.

"Main E-Stop" is the symbolic name of the bit.

There are some restrictions due to the safety to use the fieldbus input bits. The using of the input bits will be not realized in the first step (V3.0)

The bits 0 to 23 are organized in the bytes 0 to 2 as shown:

The current status of the outputs configured for the fieldbus plus the current LED status are always stored in Byte 0 ... Byte 3. All other information is stored in various tables.

Assignment of Byte 0 ... Byte 3 The outputs are defined in the PNOZmulti Config. Each output that is used is given a number there, e.g. o0, o5... . The status of output o0 is stored in Bit 0 of Byte 0; the status of output o5 is stored in Bit 5 of Byte 0 etc.

Byte									
0	o7	o6	05	o4	63	o2	01	o0	
1	o15	o14	o13	o12	o11	o10	о9	o8	
2	023	022	021	o20	o19	o18	o17	o16	
The sta	ntus o	of th	e I F	Dsi	s str	ared	in B	vte 3	ą.
Bit 0 =	1:	0	FAU	LTL	EDi	slit		<i>y</i> 10 0	
Bit 1 =	1:	IF	AUL	T LE	Dis	lit			
Bit 2 =	Bit 2 = 1: FAULT LED is lit								
Bit 3 = 1: DIAG			LED	is li	t				
Bit 4 =	Bit 4 = 1: RUN LED is lit								
Bit 5 = 1: If communication between the									
PNOZmulti and the									
	fieldbus is working								
Bit 6:		- R	eser	ved					
Bit 7:		- R	eser	ved					

Assignment of Byte 4 ... Byte 18 Each table consists of one or more segments. Each segment is made up of a max. 13 Bytes. There are 6 tables, whose assignment is fixed.



The Master must request the table number and segment number required. The Slave (e.g. PNOZ mc3p) repeats the two numbers and sends the requested data. If a number is requested that is not available, the Slave sends the error message 'FF' instead of the segment number. The segments may be requested in any sequence.

Master Fieldbus module 4 Table no. 5 Segment no. 6 0 18 0 4 Table no. 5 6 Segment no. х 18 х

Example 1: The Master requests segment 5 from table 2. The fieldbus module repeats both these details and sends segment 5. Then the data from segment 8 in table 2 is transmitted.



Example 2: The Master requests segment 8 from table 2. The fieldbus module repeats both of these details and sends segment 8. Then the Master requests segment 25 from table 5. As this table does not contain a segment 25, the Slave registers an error and sends back "FF".



3.1.2 List of Tables

Table No	Description	Number of Segments
1	Configuration	6
2	Error Stack	128 (Do not use)
3	Status of digital inputs	1
4	Status of digital outputs	2
5	Status of LED's	3
6	Error Stack in standard format	128 (Not implemented)

3.1.2.1

Table 1: PNOZmulti Configuration

Segmen			Comment	
t	Byte	Description		
	0	PN1		
	1	PN2	4 Byte Product number	
	2	PN3		
	3	PN4		
	4	GV1		
	5	GV2	4 Byte Device version	
0	6	GV3		
-	7	GV4		
	8	SN1		
	9	SN2	4 Byte Serial number	
	10	SN3		
	11	SN4		
	12	Not used		
	0	CRC- User Data Low Byte		
	1	CRC- User Data High Byte	Checksum of the user program	
	2	CRC All Data Low Byte	Observes of the entire Obie cond	
	3	CRC All Data High Byte	Checksum of the entire Chip card	
	4	Date		
	5	Date	4 Byte for creation date of the user	
1	6	Date	program	
•	7	Date		
	8	Not used		
	9	Not used		
	10	Not used		
	11	Not used		
	12	Not used		
	0	Expansion left type		
	1	Expansion 1 right type		
	2	Expansion 2 right type		
	3	Expansion 3 right type	9 Byte hardware registry	
	4	Expansion 4 right type		
	5	Expansion 5 right type	Same code as in the	
2	6	Expansion 6 right type	Component-table	
~	7	Expansion 7 right type		
	8	Expansion 8 right type		
	9	Not used		
	10	Not used		
	11	Not used		
	12	Not used		
	0	BYTE 0	Project name Byte 0 to 12	
3	1	BYTE 1	The end of the string is indicated	

Segmen			
ť	Byte	Description	Comment
	2	BYTE_2	with 0xFFFF. If in this segment there
	3	BYTE_3	is no 0xFFFF, another 13 Bytes can
	4	BYTE_4	be read out (Segment 4).
	5	BYTE_5	
	6	BYTE_6	
	7	BYTE_7	
	8	BYTE_8	
	9	BYTE_9	
	10	BYTE_10	
	11	BYTE_11	
	12	BYTE_12	
	0	BYTE_13	
	1	BYTE_14	
	2	BYTE_15	
	3	BYTE_16	
	4	BYTE_17	Project name Byte 13 to 25:
	5	BYTE_18	The end of the string is indicated
4	6	BYTE_19	with 0xFFFF. If in this segment there
-	7	BYTE_20	is no 0xFFFF, another 13 Bytes can
	8	BYTE_21	be read out (Segment 5).
	9	BYTE_22	
	10	BYTE_23	
	11	BYTE_24	
	12	BYTE_25	
	0	BYTE_26	
	1	BYTE_27	
	2	BYTE_28	
	3	BYTE_29	
	4	BYTE_30	
_	5	BYTE_31	Project name Byte 26 to 31:
5	6	END-String (FFFF)	The end of the string is indicated
	7	END-String (FFFF)	with 0xFFFF
	8	Not used	
	9	Not used	
	10	Not used	
	11	Not used	
	12	Not used	

3.1.2.2 Table 2: Error Stack (DO NOT USE)

In total, the error stack has 64 entries with two segments each (Segment 0 to 127). Each second segment contains a relative time stamp to the last Power ON of the PNOZmulti. The Segment-number 0 is the most current one..

Segmen t	Byte	Description	Comment
0	0	F-Class	Error class
U	1	F-Info.	Error Information
	2	F-Nr.	Error Number
	3	Par_0	
	4	Par_1	
	5	Par_2	5 Bytes for Parameters
	6	Par_3	
	7	Par_4	
	8	Not used	

Segmen			Comment
t	Byte	Description	
	9	Not used	
	10	not used	
	11	not used	
	12	not used	
	0		
	1		
	2		
	3		
	4		
	5		
	6		
	7		
	8		
	9		
	10		
	11		
	12		
	0	F-Class	Error class
	1	F-Info.	Error Information
	2	F-Nr.	Error Number
	3	Par_0	
	4	Par_1	
	5	Par_2	5 Bytes for Parameters
127	6	Par_3	
	7	Par_4	
	8	Not used	
	9	not used	
	10	not used	
	11	Not used	
	12	Not used	

3.1.2.3 Table 3: Status of the Digital Inputs

Physically not available inputs are always shown with status "0". Each input byte (IB) contains up to 8 bits of the module

Segmen		_	Comment	
t	Byte	Description		
	0	IB 0.0 - i00 to i07		
	1	IB 1.0 - i08 to i15	Base Module	
	2	IB 2.0 - i16 to i19		
	3	0	reserved	
	4	0	reserved	
0	5	IB 5.0 - i00 to i07		
	6	IB 6.0 - i00 to i07		
	7	IB 7.0 - i00 to i07		
	8	IB 8.0 - i00 to i07	Expansion Modulos	
	9	IB 9.0 - i00 to i07		
	10	IB 10.0 - i00 to i07		
	11	IB 11.0 - i00 to i07		
	12	IB 12.0 - i00 to i07		



3.1.2.4 Table 4: Status of the Digital Outputs

Physically not available outputs are always shown with status "0". Each output byte (OB) contains up to 8 bits of the module

Segmen			Comment	
t	Byte	Description	Comment	
	0	0		
	1	0]	
	2	0	Base Module	
	3	OB 3.0 - 000 to 003]	
	4	OB 4.0 - 004 to 005]	
-	5	OB 5.0 - 000 to 003		
0	6	OB 6.0 - 000 to 003]	
Ŭ	7	OB 7.0 - 000 to 003]	
	8	OB 8.0 - 000 to 003	Expansion Modulos	
	9	OB 9.0 - 000 to 003		
	10	OB 10.0 - 000 to 003		
	11	OB 11.0 - 000 to 003]	
	12	OB 12.0 - 000 to 003		
	0	0		
	1	0		
	2	0		
	3	0		
	4	0		
	5	OB 5.8	Expansion Modules	
1	6	OB 6.8	Second Byte	
-	7	OB 7.8		
	8	OB 8.8		
	9	OB 9.8		
	10	OB 10.8		
	11	OB 11.8		
	12	OB 12.8		

3.1.2.5 Table 5: Status of the LED's

Seamen			
ť	Byte	Description	Comment
	0	RUN	
	1	Diag	
	2	FAULT	
	3	I-Fault	
	4	O-Fault	
-	5	FAULT 1.Expansion module	00h: Led is OFF
0	6	FAULT 2.Expansion module	FFh: Led is ON
•	7	FAULT 3. Expansion module	30h: Led is flashing
	8	FAULT 4.Expansion module	
	9	FAULT 5.Expansion module	
	10	FAULT 6.Expansion module	
	11	FAULT 7.Expansion module	
	12	FAULT 8.Expansion module	
1	0	IB 0.0	Flash Mask of the digital inputs
I	1	IB 1.0	0: LED is not flashing
	2	IB 2.0	1: LED is flashing
	3	Reserved	
	4	Reserved	
	5	IB 5.0	

Segmen			Commont
ť	Byte	Description	Comment
	6	IB 6.0	
	7	IB 7.0	
	8	IB 8.0	
	9	IB 9.0	
	10	IB 10.0	
	11	IB 11.0	
	12	IB 12.0	
	0	LED A: Top left	LED Status of the Fieldbus Module
	1	LED B: Top right	0000 0000 LED off or not used by
	2	LED C: Bottom left	the module
			0000 0001 LED Green
			0000 0010 LED Red
	3	LED D: Bottom right	other values are not defined!
	4	Not used	
2	5	Not used	
_	6	Not used	
	7	Not used	
	8	Not used	
	9	Not used	
	10	Not used	
	11	Not used	
	12	Not used	

3.1.2.6 Table 6: Error Stack in Standard Format This table is not completely defined yet.

3.2 Configuration of the Fieldbus Module

3.2.1 Fieldbus Configuration in Programming Tool

In the configuration phase of PNOZmulti (in the window "Select Base Modules and Expansion Modules") there is a possibility to select the fieldbus module.

There is no configuration necessary in the software.

All necessary settings are done at the Fieldbus module hardware.

3.2.2 Version Management

The PNOZmulti and the Fieldbus module can run together, if the communication protocol and data processing (the format) in both are matched.

The PNOZmulti tells the Fieldbus Module in the configuration segment 0, by which format it will run. After that, the Fieldbus module will match itself according to it.

If the Fieldbus module cannot support (or simulate) the suggested format from the PNOZmulti, it will report an error and jump to stop.



3.2.3 Fieldbus Configuration File

Some Fieldbus systems require a configuration file. This file is part of the CD where the PNOZmulti configuration tool is supplied.

3.2.4 Data Consistency

Data consistency has to be guaranteed for the table transfer protocol.



Some fieldbuses cannot support data consistency or the user will not configure the fieldbus to support it (it has some disadvantage). E.g. for Profibus it is easy to select this feature in the configuration of the master.

In order to support data consistency for entire system between PNOZmulti and PLC, a special Protocol will be used.

3.2.5 Data Consistency Protocol

Here are used two bits in each data segment to guarantee the data consistence. The bit 7 of byte 4 and bit 7 of byte 19 are used. The bits are always the same if the data are consistence. They will toggle for each data sending from the sender. The receiver should check these bits for equality.

This protocol will be used for both directions. The sender has to toggle the bits when it writes a new data into bytes 4 to 18 of the segment.



The receiver checks the two bits when it receives a new segment. The receiver checks the bits only for the equality and not for to be toggled. If the sender is not interested in data consistence check, it can leave the bits without changes, but they must be always equal.

From the PNOZmulti side as a sender, the bits will be toggled for each changing in the table bytes (bytes 4 to 18).

In the PNOZmulti as a receiver, the two bits will be checked always for equality only. If the bits are not equal, it will set a bit in its status segment. In this case, the table data will be used anyway if the bits are not same for two times after each other.

The PLC as a sender can toggle the 2 bits if it is interested in the data consistence check or let the 2 bits stay always equal and same as before.

The PLC as a receiver can check the two bits for equality, or ignore them.

3.3 Fieldbus Specific Features

Currently the following fieldbus modules are available

Bus System	Product Name	Order Number
Profibus DP	PNOZ mc3p	773 721
DeviceNET	PNOZ mc4p	773 722
Interbus-S	PNOZ mc5p	773 723
CANopen	PNOZ mc6p	773 724
CC-Link	PNOZ mc7p	773 726

3.3.1	Address and Baud Rate Setting
-------	-------------------------------

Bus System	Addressing	Baud Rate
Profibus DP	Setting from 1 to 99 with rotary switch	Auto Baud detection
DeviceNet	Setting of MAC ID from 0 to 63 with Dip switch	Setting 125, 250 or 500 KBaud with dip switch
Interbus-S	No address setting required	Setting 500Kbaud or 2Mbaud with jumper
CANopen	Setting from 1 to 99 with rotary switch	Setting 10, 20, 50, 125, 250, 500, 800 and 1MBaud with rotary switch
CC-Link	Setting from 1 to 64 with rotary switch	Setting 156, 625 KBaud, 2.5, 5 and 10MBaud with rotary switch

3.3.2 Configuration Files

Bus System	File Type	Name
Profibus DP	GSD file	Pilz07F3.GSD
DeviceNet	EDS file	PNOZmc4p.eds
Interbus-S	None (ID03 _{hex})	
CANopen	EDS file	PNOZmc6p.eds
CC-Link	CSP file	PNOZ-MC7P_2.csp

4 Profibus DP (PNOZ mc3p)

4.1 Importing the GSD file

It is necessary to import the actual GSD file. You can download the latest file on the homepage of PILZ.

HW Konfig - [SIMATIC 400(1) (Konfiguration) Mu	lti DP-S]		
🕅 Station Bearbeiten Einfügen Zielsystem Ansicht E	xtras Fenster Hilfe		
Image: Constraint of the constr	Einsteilungen Ctri+Alt+E Beugruppe spezifizieren Netz konfigurieren Symbolizabelle Ctri+Alt+T Systemfehler melden Katalogprofile bearbeiten Katalog aktualisieren Neue GSD installieren Stations-GSD importieren	stem [1]	Profit Standard
SIMATIC 400(1) Steckplatz Bezeichnung UR2 PROFIBUS(1):DP-Mastersystem (1)		×	
Installiert naue CSD-Dataion ing System und altrufficiation Kat	ralooinhalt		M7-400 (zentraler Aufbau)
Installer nede GD-Dateien ins system und aktualisiert den Kar I Start I 🕜 🔕 🥔 🗃 🃅 🕕 📑 👋 🍂 SIMA	.aroginnak. TI 📴 HW Kon 🖾 C:\WIN 🔯	(OP/A 🛛 🔯 Letsche 🗍 🗃 PNOZm 🗍 🛃 Acrobat.	🛐 🕀 🔪 💷 🍔 🧰 😁 🍵 13:12

4.2 Configure the network

The PNOZ Multi mc3p module can be found in the hardware catalogue after the GSD file has been imported.





Select the module an insert it in the DP- master system.



Use the Address as configured on the HW module.

The input/output addresses are configured be the S7 Software. These adresses will be used in the application program. (SFC 14 / SFC 15)

Steckplatz		Baugruppe / DP-Kennung	Bestellnummer	E-Adresse	A-Adresse	Kommentar
0	j	192	mc3p	512531	512531	

It is possible to change the addresses.

4.3 Application program

Insert the System function blocks SFC 14 and SFC 15 into your application program.

OB1 Multi DP-S\SIMATIC 400(1)\CPU 414-2 DP	×
OB1 : "Main Program Sweep (Cycle)"	
Kommentar:	
Netzwerk 1: READ DATA	
READ the datas which are send by the mc3p LADDR is the INPUT address in hex.	
W#16#200 - LADDR RET_VAL -MW100 DB10.mc3p_ RECORD - Input	
WRITE the datas into the mc3p LADDR is the OUTPUT address in hex.	
W#16#200 LADDR RET_VAL DB20.mc3p_ RECORD	

In the example we write the datas of the DB 20 and we store the datas into the DB 10.

To fetch a table we have to send the tabel number and the segment number to the mc3p. Therefore write the tabel number into the data byte 4 and the segment number into the byte 5

₩¥ Va	riable beobach	ten und	steue	ern - [@Varia	blenta 💶 🗙
12 I	abelle <u>B</u> earbeite	n Einfüg	jen (Zielsystem <u>V</u> a	riable Ansicht
Extra	s Eenster Hilfe				_ 6 ×
		alv			× • • • •
		<u> </u>	43		
9⁄	66 M2 66 M	1 ////			
	Operand	Symbol	Anz	Statuswert	Steuerwert
1	DB10.DBB 0		HEX	B#16#02	
2	DB10.DBB 1		HEX	B#16#00	
3	DB10.DBB 2		HEX	B#16#00	
4	DB10.DBB 3		HEX	B#16#30	
5	DB10.DBB 4		HEX	B#16#01	
6	DB10.DBB 5		HEX	B#16#00	
7	DB10.DBD 6		DEZ	L#773100	
8	DB10.DBB 7		HEX	B#16#0B	
9	DB10.DBB 8		HEX	B#16#CB	
10	DB10.DBB 9		HEX	B#16#EC	
11	DB10.DBB 10		HEX	B#16#00	
12	DB10.DBB 11		HEX	B#16#00	
13	DB10.DBB 12		HEX	B#16#00	
14	DB10.DBB 13		HEX	B#16#0C	
15	DB10.DBB 14		HEX	B#16#00	
16	DB10.DBB 15		HEX	B#16#01	
17	DB10.DBB 16		HEX	B#16#89	
18	DB10.DBB 17		HEX	B#16#C4	
19	DB10.DBB 18		HEX	B#16#00	
20	DB10.DBB 19		HEX	B#16#00	
21					
22	DB20.DBB 0		HEX	B#16#00	
23	DB20.DBB 1		HEX	B#16#00	
24	DB20.DBB 2		HEX	B#16#00	
25	DB20.DBB 3		HEX	B#16#00	
26	DB20.DBB 4		HEX	B#16#01	B#16#01
27	DB20.DBB 5		HEX	B#16#00	B#16#00
28	DB20.DBB 6		HEX	B#16#00	
29					

In the picture you can see the request of the table 1 segment 0.

To start the request you have to insert the number for the table into the databyte 4 and the number of the segment into the databyte 5.

After a few milliseconds you receive the values of the table 1 segment 0.

In the example you can see this in the double word 6.

5 DeviceNet (PNOZ mc4p)

5.1 Sample I/O Communication with ControlLogix

5.1.1 Import EDS File



DeviceNet - RSNetWorx for DeviceNet		_ B ×
Eile Edit View Network Device Diagnos	ics <u>T</u> ools <u>H</u> elp	<u>5 (</u>
🎦 🖻 - 🔛 🎒 X 🖻 🛍 🕅		
⊕ Q E E E Z → A ↓ ■	? ≠	
Hardware		×
🗇 😰 Colonomi		_
	-	
Barcode Scanner		
🕀 🌔 Communication Adapter		
DPI to DeviceNet	Rockwell Software's EDS Wizard	
DeviceNet to SCANport DeviceNet to SCANport	Begistration	
	Electronic Data Sheet file(s) will be added to your system for use in Rockwell	
	Software applications.	
🕀 👘 Human Machine Interface		
🕀 🜔 Inductive Proximity Switch	Register a single file	
E Limit Switch		
	C Register a directory of EDS files 👘 Look in subfolders	
Photoelectric Sensor	Named:	
🗄 👘 Rockwell Automation miscellar	elect an EDS file Prowse	
🗄 👰 SCANport Adapter	Suchan in: 🕞 Bevision 1.1	
Hand Unknown Device Type 126	PNOZmc4p.eds	
⊡ 👔 Vendor		
🔁 🎁 Pilz GmbH & Co	are registering	
Rockwell Automation - Allen-E	die registering	
Rockwell Automation - Dodge Rockwell Automation - Floater		
E Rockwell Automation - Electro	e file(s), click Next	
E Rockwell Automation/Entek Ir		
🗄 👘 Rockwell Automation/Spreche	Dateinamer PN0Zmc/n eds	
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	Dateityp: EDS Files (*.eds)	
	Schreibgeschiltzt öffnen	
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Ready		Offline

Identical Baudrate on Scanner and mc4p

5.1.2 Configure Network



Toggle the online state of the network

Browse for network
Select a communications path to the desired network.
Autobrowse Refresh
E 문 Workstation, PC-RBAUER 한 器 Linx Gateways, Ethernet
□ □ 172.16.210.19, 1756-ENBT/A, 1756-ENBT/A □ □ Backplane, 1756-A7/A
O0, 1756-L55/A LOGIX5555, 1756-L55/A 1756-M1 O1, 1756-ENBT/A O2, 1756-CNBR/D, 1756-CNBR/D D05 38 40
🖃 🗍 03, 1756-DNB/A, 1756-DNB/A DeviceNet Scanner
04, 1756-IB16/A, 1756-IB16/A DCIN 05, 1756-OB16E/A, 1756-OB16E/A DCOUT EFUS ⊕ 💑 EMV, Ethernet
<u>O</u> K <u>C</u> ancel <u>H</u> elp



1756-DNB/A ?X
General Module Scanlist Input Output ADR Summary
1756-DNB/A
<u>N</u> ame: 1756-DNB/A
Description:
Add <u>r</u> ess: 0
Device Identity [Primary]
Vendor: Rockwell Automation - Allen-Bradley [1]
Type: Communication Adapter [12]
Device: 1756-DNB/A [14]
Catalog: 1756-DNB/A
Revision: 4.005
OK Abbrechen Übernehmen Hilfe
Scanner Configuration Applet
 Do you want to upload the configuration from the device, updating the software's configuration; or download the software's configuration to the device, updating the device? For more information, press F1
Upload Download Cancel

\bullet	
Ρ	Ζ

24 1756-DNB/A	<u>? ×</u>
General Module Scanlist Input	t Output ADR Summary
Availa <u>b</u> le Devices:	<u>S</u> canlist:
I <mark>IIII 05, PN0Zmulti mc4p Devi…</mark>	> < >> <
☑ Auto <u>m</u> ap on Add	Node Agtive
Upload from Scanner	Electronic Key:
Download to Scanner	<u>V</u> endor <u>P</u> roduct Code
Edit I/O Parameters	☐ Major <u>B</u> evision ☐ Mi <u>n</u> or ☐ or <u>h</u> igher
OK Abt	prechen Ü <u>b</u> ernehmen Hilfe

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Ρ	IZ

1756-DNB/A				<u>? ×</u>
General Module	Scanlist Input	Output	ADR S	ummary
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				<u>U</u> nmap
				A <u>d</u> vanced
•			Þ	Options
M <u>e</u> mory: Ass	embly Data 💌	<u>S</u> tart D∖	Vord: 0	·
Bits 31 - 0				
1:LData[0]	05 PN	107 multi mr	-4n DeviceN	Jet
1:LData[1]	05 PN	10Zmulti mr	-4n DeviceN	Jet
1:1.Data[2]	05. PN	IOZmulti ma	40 DeviceN	let
1:I.Data[3]	05, PN	lOZmulti mo	4p DeviceN	let
1:1.Data[4]	05, PN	lOZmulti ma	o4p DeviceN	let
1:1.Data[5]				
1:I.Data[6]				
1:1.Data[7]				
1:I.Data[8]				
	ОК АЬЬ	rechen	Ü <u>b</u> ernehme	en Hilfe

1756-DNB/A
General Module Scanlist Input Output ADR Summary
Node Type Size Map €== 05, PN Polled 20 1:0.Data[0].0
Unmap
Advanced
▲
Memory: Assembly Data 💌 Start DWord: 0 📑
Bits 31 · 0
1:0.Data[0] 05, PN0Zmulti mc4p DeviceNet 1:0.Data[1] 05, PN0Zmulti mc4p DeviceNet
1:0.Data[2] 05, PN0Zmulti mc4p DeviceNet 1:0.Data[3] 05, PN0Zmulti mc4p DeviceNet
1:0.Data[4] 05, PN0Zmulti mc4p DeviceNet
1:0.Data[6]
1:0.Data[7]
OK Abbrechen Ü <u>b</u> ernehmen Hilfe
Scanner Configuration Applet Image: Configuration Applet Image: Configuratio
Save As
Spejchern 🔄 Networks 🔽 🖛 🗈 🛱 🖽 -
Devcenettest.dnt
PNOZmulti dot
Psplag.dnt
temp.dnt
and a second sec
Datei <u>n</u> ame: PNOZmulti.dnt <u>Sp</u> eichern
Dateityp: DeviceNet Files (*.dnt)

5.1.3 Application Program

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R KSLUGIX 3000	
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Print Options	
1 PNOZmulti.ACD	
2 E:\PLC_Prj\Rockwell\PNOZelog.ACD	
3 P:\Daten\\CLX mit ETH\temp.ACD	
4 sss.ACD	
5 P:\Daten\\CLX mit ETH\CN_DN_Test.ACD	
6 E:\work\\CLX\CN_DN_Test.ACD	
7 ggg.ACD	
8 P:\Daten\\CN_DN_Test_NoETH.ACD	
Fyit	
EXit	J
Constant and the file	

Create a new project file

New Controller	r	×
Vendor:	Allen-Bradley	
<u>Т</u> уре:	1756-L55 ControlLogix5555 Controller	ОК
Re <u>v</u> ision:	12 💌	Cancel
	<u>B</u> edundancy Enabled	Help
Na <u>m</u> e:	myController	
Descri <u>p</u> tion:	Ā	
<u>C</u> hassis Type:	1756-A7 7-Slot ControlLogix Chassis	
Sl <u>o</u> t:	0 💌	
Cr <u>e</u> ate In:	C:\RSLogix 5000\Projects	Browse



Se	elect Module 1	уре	Ľ
	<u>T</u> ype:	Major <u>R</u> evision:	
	1756-DNB	4	
	Туре	Description	
	1756-DMA50	1756 SA500 Drive Interface	
	1756-DMB30	1756 SB3000 Drive Interface	
	1756-DMD30	1756 SD 3000 Drive Interface	
	1756-DMF30	1756 SF3000 Drive Interface	
	1756-DNB	1756 DeviceNet Scanner	
	1756-ENBT/A	1756 10/100 Mbps Ethernet Bridge, Twisted-Pair Media 1756 SF3000 Driv	e Ir
	1756-ENET/A	1756 Ethernet Communication Interface	
	1756-ENET/B	1756 Ethernet Bridge	
	1756-EWEB/A	1756 10/100 Mbps Ethernet Bridge w/Enhanced Web Services	
	1756-HSC	1756 High Speed Counter	
	1756-HYD02	2 Axis Hydraulic Servo	
	1756-IA16	16 Point 79V-132V AC Input	
	Show		
	⊻endor: All	▼	
	☑ A <u>n</u> alog	I Digital I Communication I Motion I Controller Clear All	
		OK Cancel Help	

Module Prope	rties - Local (1756-DNB 4.1)				×
Type: Vendor: Na <u>m</u> e:	1756-DNB 1756 DeviceNet Scanner Allen-Bradley myDeviceNetScanner	Sl <u>o</u> t:	3 -		
Descri <u>p</u> tion:		nput Size: D <u>u</u> tput Size: <u>S</u> tatus Size:	124 ÷ 123 ÷ 32 ▼	(32-bit) (32-bit) (32-bit)	
<u>R</u> evision:	4 1 Electronic Keying: Compared Cancel < Back	atible Module Next >	e 💌	>> Help	_

🂐 RSLogiy 5000 - myController	r [1756-I 55]*		- ALX
File Edit View Search Logic	Communications Tools W	vindow Help	
	Who Active Select Recent Path		
Offline Image: Constraint of the second se	Go Online Upload Download Program Mode	th: <none> Heri heri Heri heri</none>	
Controller myController Controller Tags Controller Fault Handl Power-Up Handler Tasks MainTask MainTrogram Unscheduled Programs Motion Groups Ungrouped Axes Trends Data Types Strings Strings Strings Strings 1/0 Configuration [3] 1756-DNB myDevic	eNetScanner		
Module Defined Tags Description Module Fault			
Select a communications path using R	SWho		



Download	l 🔀				
Ŀ	Download to the controller: Name: PNOZmulti Type: 1756-L55/A 1756-M13/A ControlLogix5555 Controller Path: CS-SAT\172.16.210.19\Backplane\0 Security: <none></none>				
The controller is in Remote Run mode. The mode will be changed to Remote Program prior to download.					
	Download Cancel Help				



5.1.4 Test Data Exchange

能 R5Logix 5000 - myController [1756-L55]*	<u>_ 8 ×</u>
File Edit View Search Logic Communications Tools Window Help	
Rem Prog Program Mode No Forces Controller UK Battery Fault Battery Fault I/O DK I	
Controller myController Controller myController Contro	
monitor a tag collection	

RSLogix 5000 - myController [1756-L55] File Edit View Search Logic Communic	i]* - [Controller Tags - myC ications Tools Window Heli	ontroller(controller)]				_ <u>8 ×</u>
	TRUE	- &&& [e [
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	Scope: myController(co	htrolle - Show: Show All	Sort: Tag	Name 🔻		
Controller Tags	Tag Name	 ⊽ Val	ue +	Force Mask 🔶	Style Type	Descriptic 🔺
Controller Fault Handler	► +-Local:3:1		{}	{}	AB:1756_DNB_5	
Power-Up Handler			{}	{}	AB:1756_DNB_4	
A MainTask	terest t		{}	{}	AB:1756_DNB_S	t
🕀 🕞 MainProgram						
Unscheduled Programs						
Ungrouped Axes						
Trends						
E						
tings						
🕀 🗔 Predefined						
⊞ - Link Module-Defined						
[3] 1756-DNB myDeviceNetScanner						
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	11					
						-
	Monitor Tags	Edit Tags /	1			
Ready						2

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🖉 File Edit	View Search Logic	Communications	Tools Window Help					-8×
			- <u>&&</u>	s 🖪 🛛 🖉 🔍 Q Q				
Rem Prog	🚺 📃 Program Mode		Path: CS-SAT\172.16.210.19\Backp	ane\0* 🗾 🖁	Б			
No Forces	Go Offline	The second secon			-			
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	Download		Favorites Bit Timer/Counter	🕻 Input/Output 🔏 Compare				
	Program Mode Rup Mode		Scope: myController(controller Show:	Show All 💽 Sc	ort: Tag Name	-		
- 🖉 🖸	Test Mode		Tag Name	⊽ Value	 Force Mask 	 Style 	Туре	Desc 🔺
- <u></u> 0	Cloor Epults		▶ +-Local:3:I		{}	{}	AB:1756_DNB_5	
Po	Go To Faults				{}	{}	AB:1756_DNB_4	
📄 🔂 Ma			⊞-Local:3:S		{}	{}	AB:1756_DNB_St.	
j 🗄 🛱	Controller Propertie:	s						
Un 🖂 Motion	scheduled Programs							
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Trends	5							
📄 📥 Data T	ypes							
E Sh	ier-Derinea rinas							
±-Ωng Pro	edefined							
🗄 🛄 Ma	odule-Defined							
📄 🗁 🔄 I/O Co	nfiguration							
	J 1756-DNB myDeviceNe	tScanner						
			Monitor Tags / Edit Tags /					
Change controlle	er mode to Remote Run							
RSLogix 5000 - myController [1756-L55]* - [0	Controller Tags - myController(controller)]				<u>- 8 ×</u>			
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Pile Edit View Search Logic Communications	s Tools Window Help				- 8 ×			
	e 🖸 <u>as as te</u> [7 <u>9</u> <u>9</u> <u>9</u>						
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	Tag Name ▽	Value 🗲 Force M	1ask 🗲 Style	Туре	Desc 🔺			
Controller Fault Handler	terester + -Local:3:1	{}	{}	AB:1756_DNB_5				
Power-Up Handler	⊟-Local:3:0	{}	{}	AB:1756_DNB_4				
	-Local: 3:0.CommandRegister	{}	{}	AB:1756_DNB_C				
HainProgram	Local: 3:0.CommandRegister.Run	1	Decimal	BOOL				
Unscheduled Programs	Local: 3:0.CommandRegister.Fault	0	Decimal	BOOL				
🚍 🚔 Motion Groups	Local: 3:0. CommandRegister. DisableNet	0	Decimal	BOOL				
Ungrouped Axes	Local: 3:0.CommandRegister.HaltScanner	0	Decimal	BOOL				
Data Types	Local: 3:0.CommandRegister.Reset	0	Decimal	BOOL				
User-Defined	+-Local:3:0.Data	{}	{} Decimal	DINT[123]				
E G Strings	-Local:3:S	{}	{}	AB:1756_DNB_St				
E Redefined			l					
I/O Configuration I/I [3] 1756-DNB myDeviceNetScapper								
	Monitor Tags / Edit Tags /	•						
Enter a tag value					2			

8 R5Logix 5000 - myController [1756-L55]* - [1	Controller Tags - myController(controller)]			_ 8 >	×
Pile Edit View Search Logic Communication	s Tools Window Help			_ 6 >	×
	e <u>sida be</u> [12 22			
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Controller Tags	Tag Name 🗸	Value 🔶 Force Ma	ask 🗲 Style	Type Desc 🔺	•
Controller Fault Handler	-Local:3:1	{}	{}	AB:1756_DNB_5	
Power-Up Handler	+-Local:3:1.StatusRegister	{}	{}	AB:1756_DNB_St	
E Tasks	+-Local:3:I.Data	{}	{} Hex	DINT[124]	
🗄 🕞 Main Osk	-Local:3:0	{}	{}	AB:1756_DNB_4	
Unscheduled Programs	+-Local:3:0.CommandRegister	{}	{}	AB:1756_DNB_C	
Hotion Groups	▶ +-Local:3:0.Data	{}	{} Decimal	 DINT[123] 	
Ungrouped Axes	I +-Local:3:S	{}	{} Binary	AB:1756_DNB_St	
Data Types			Octal		
User-Defined			Hex		
			ASCII		
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E					
[3] 1756-DNB myDeviceNetScanner					
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	Monitor Tags / Edit Tags /	•			
Enter display style for the value				a	Ē

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📄 🛱 MainTask	+Local:3:I.Data	{}	{}	Hex	DINT[124]	
🗄 🕞 MainProgram	Local:3:0	{}	{}		AB:1756_DNB_4	
Unscheduled Programs		{}	{}		AB:1756_DNB_C	
Motion Groups	Ė-Local:3:0.Data	{}	{}	Hex	DINT[123]	
	-Local:3:0.Data[0]	16#0000_0000		Hex	DINT	
E Data Types	▶ ⊕-Local:3:0.Data[1]	16#0000_0003		Hex	DINT	
User-Defined	E-Local:3:0.Data[2]	16#0000_0000		Hex	DINT	
🗄 🙀 Strings		16#0000_0000		Hex	DINT	
	- Local:3:0.Data[4]	16#0000_0000		Hex	DINT	
Module-Defined	⊥-Local:3:0.Data[5]	16#0000_0000		Hex	DINT	
I/O Configuration I/O Configuration I/O Configuration I/O Configuration I/O Configuration		16#0000_0000		Hex	DINT	
	-Local:3:0.Data[7]	16#0000_0000		Hex	DINT	
	-Local:3:0.Data[8]	16#0000_0000		Hex	DINT	
	E-Local:3:0.Data[9]	16#0000_0000		Hex	DINT	
	-Local:3:0.Data[10]	16#0000_0000		Hex	DINT	
	-Local:3:0.Data[11]	16#0000_0000		Hex	DINT	
	+-Local:3:0.Data[12]	16#0000_0000		Hex	DINT	
	-Local:3:0.Data[13]	16#0000_0000		Hex	DINT	
	+-Local:3:0.Data[14]	16#0000_0000		Hex	DINT	
		16#0000_0000		Hex	DINT	
	+-Local:3:0.Data[16]	16#0000_0000		Hex	DINT	
	+-Local:3:0.Data[17]	16#0000_0000		Hex	DINT	
	+-Local:3:0.Data[18]	16#0000_0000		Hex	DINT	
	+-Local:3:0.Data[19]	16#0000_0000		Hex	DINT	
	+-Local:3:0.Data[20]	16#0000_0000		Hex	DINT	
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Controller Tags	Tag Name ▽	Value 🗲 Force Mask 🔹	Style Type	Desc 🔺
Power-Up Handler	-Local:3:1	{}	AB:1756_DNB_5	
🗄 📇 Tasks		{}	AB:1756_DNB_St.	·
🖻 🚭 MainTask	-Local:3:1.Data	{}	Hex DINT[124]	
🕀 🕞 MainProgram		16#3000_0080	Hex DINT	
Unscheduled Programs		✓ 16#0002_0003	Hex DINT	
Hotion Groups		7 6 5 4 3 2 1 0	Hex DINT	
Trends	+-Local:3:I.Data[3]	7-0 0 0 0 0 0 1 1	Hex DINT	
🖻 🖶 🔄 Data Types	+-Local:3:1.Data[4]	15-8 0 0 0 0 0 0 0 0	Hex DINT	
- Grand User-Defined		23-16 0 0 0 0 0 0 1 0	Hex DINT	
🕀 🗔 Strings	- Local:3:I.Data[6]	31-24 0 0 0 0 0 0 0 0	Hex DINT	
	-Local:3:I.Data[7]	10#1190_1101	Hex DINT	
	E-Local:3:1.Data[8]	16#1192_1191	Hex DINT	
[3] 1756-DNB myDeviceNetScanner	-Local:3:1.Data[9]	16#1194_1193	Hex DINT	
5 (-)		16#1196_1195	Hex DINT	
	Local:3:I.Data[11]	16#1198_1197	Hex DINT	
	E-Local:3:I.Data[12]	16#119a_1199	Hex DINT	
	E-Local:3:I.Data[13]	16#119c_119b	Hex DINT	
	E-Local:3:I.Data[14]	16#119e_119d	Hex DINT	
	E-Local:3:I.Data[15]	16#11a0_119f	Hex DINT	
	E-Local:3:1.Data[16]	16#0000_0000	Hex DINT	
		16#0000_0000	Hex DINT	
	E-Local:3:I.Data[18]	16#0000_0000	Hex DINT	
	⊕-Local:3:1.Data[19]	16#0000_0000	Hex DINT	
	+-Local:3:1.Data[20]	16#0000_0000	Hex DINT	
	+-Local:3:1.Data[21]	16#0000_0000	Hex DINT	
	+-Local:3:1.Data[22]	16#0000_0000	Hex DINT	
	⊕-Local:3:1.Data[23]	16#0000_0000	Hex DINT	
		16#0000_0000	Hey DINT	
Enter a tag value				<u> </u>

Pilz GmbH & Co. D-73760 Ostfildern Felix-Wankel-Str.2

5.2 Sample Messages with ControlLogix

5.2.1 Application program

🔏 R5Logix 5000 - myController [1756-L55]* - [Controller Tags - myController(controller)]				_ 8 ×
🎽 File Edit View Search Logic Communications Tools Window Help				_ 8 ×
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Offline II RUN	- #			
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Cor New Tag Ctrl+W Tag Name	Value 🗲	Force Mask 🛛 🗲	Style Type	Desc 🔺
Pol Manihar Tana	{}	{}	AB:1756_DNB_	5
Tasks Edit Tass	{}	{}	AB:1756_DNB_	.4
En toge Ma Verify	{}	{}	AB:1756_DNB_	St
Export Tags				
□ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □				
Ungrouped Axes				
Trends				
Data Types				
E GR Predefined				
🗄 🕞 Module-Defined				
				_
Monitor Tags (Edit Tags				· · · ·
Create a tag				

🎉 RSLogix 5000 - myController [1756-L55]* - [1	[Controller Tags - myController(con	troller)]		
Prie Edit View Search Logic Communication	UE	& & F <u>29</u> Q	2	
Offline I RUN No Forces C BAT No Edits E I/O	Path: CS-SAT\172.16.210.19\E Path: Har Har Har Har Har	Backplane\0* Image: Comparison of the second seco		
Controller myController	Scope: myController(controller	Show: Show All 💽 🔹	Go <u>r</u> t: Tag Name 💌	
Controller Fault Handler Power-Up Handler Tasks MainTask MainTask MainProgram Unscheduled Programs Motion Groups Motion Groups Trends Data Types Generations Strings Generations Module-Defined Generation Module-Defined Generation Module-Defined Generation Module-Defined Generation Module-Defined Generation Module-Defined Generation Module-Defined Generation Module-Defined Generation Module-Defined Generation Module-Defined Generation Module-Defined Module-Defined Module-Defined Generation Module-Defined Module-Defined Generation Module-Defined Generation Module-Defined Mod	Image: Provide the system Image: Provide the system	Q Alias For Base 1 Image: Alias For Image: Alias For Image	ag Type AB:1756 AB:1756 AB:1756 AB:1756 MESSAGE SINT[20] MESSAGE SINT[20] MESSAGE SINT[20]	Style Description Image: Style Image: Style Image: Style Image: Style Hex Image: Style Hex Image: Style Image: Style Image: Style
Declars data from this too to postbox cost-s ¹⁰ -s ²⁰		/		× •

RSLogix 5000 - myController [1756-L55]* - [0 Ele Edit View Search Logic Communications	Controller Tags - myController(contro	ller)]				
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	Scope: myController(controlle Sho	w: Show All	▼ So <u>r</u> t	Tag Name 💌		
Controller Tags	P TagName ▽	Alias For	Base Tag	Туре	Style	Description 🖌 🔺
Power-Up Handler	+-Local:3:1			AB:1756		
⊟ 🔄 Tasks	⊕-Local:3:0			AB:1756		
🗇 🤯 MainTask				AB:1756		
Unscheduled Program	Monitor Tag - msgReadPnozMulti			SINTI201	Hex	
🖃 😁 Motion Groups	Edit Tag Properties	Alt+Enter		MESSAGE		
Ungrouped Axes	Create Tag which aliases - msgReadB	PoozMulti		SINT[20]	Hex	
Irends	Trend Tag - msgReadPnozMulti					
User-Defined Group Strings Group Predefined Group Group G	Go to Cross Reference Go to Axis Wizard Go to Axis Properties Go to Coordinate System Wizard Go to Coordinate System Properties Go to Motion Group Wizard Go to Motion Group Properties Go to Motion Group Properties Go to Com/Cam Profile Editor Go to Cam/Cam Profile Editor Go to Cam/Cam Profile Editor Go to Output Cam Editor Go to Message Path Editor Go To	Ctrl+E Ctrl+G				
	Options		_			
	Cut	Ctrl+X				
	Copy	Ctrl+C				
	Delete	Del				
× ¥	Monitor Tags Edit Tags			•]		

Message Configuration - msgReadPnozMu	lti 🔀
Configuration* Communication Tag	
Message <u>Type:</u> CIP Generic	•
Service <mark>Get Attribute Single</mark> Type: Service e (Hex) <u>C</u> lass: 4 (Code: 100 Attribute: 3 (Source Element: Image: Constraint of the second s
◯ Enable ◯ Enable Waiting ◯ Start	ODone Done Length: 0
 Error Code: Extended Error Cod Error Path: Error Text: 	de: 🔲 Timed Out 🗲
ОК	Abbrechen Ü <u>b</u> ernehmen Hilfe

Message Path Browser
Path: myDeviceNetScanner
myDeviceNetScanner
IVO Configuration Image: Image: I
OK Cancel Help
Message Configuration - msgReadPnozMulti
Configuration* Communication* Tag
Path myDeviceNetScanner, 2, 5 Browse
myDeviceNetScanner, 2, 5
Communication Method
© CIP © D <u>H</u> + Channel:
CIP With Source Link: 0 🚔 Destination Node: 0 🚔 (Octal)
Connected Cache Connections
○ Enable ○ Enable Waiting ○ Start ○ Done Done Length: 0
 ◯ Error Coi Extended Error Code: □ Timed Out € Error Path: Error Text:
OK Abbrechen Ü <u>b</u> ernehmen Hilfe

RSLogix 5000 - myController [1756-L55]* - [Controller Tags - myController(contro	ller)]					<] 21
	JE <u>& &</u>	& Te 🛛 🕾 🤄	20			<u></u>	5
Offline RUN	Path: CS-SAT\172.16.210.19\Back	kplane\0*					
No Edits BAT	Favorites Alt Timer/Counter	r (U)- (L)- r (Input/Output (Con	▶ npare				
Controller myController	Scope: myController(controlle Sho	w: Show All] So <u>r</u> t	Tag Name			Ī
Controller Tags	P Tag Name ▽	Alias For Ba	ase Tag	Туре	Style	Description	-
Controller Fault Handler	+-Local:3:I			AB:1756			1
E-G Tasks	+-Local:3:0			AB:1756			1
🖻 🤕 MainTask	⊕-Local:3:S			AB:1756			1
🕀 🕞 MainProgram	Image: measure for the mea			MESSAGE			1
Unscheduled Programs				SINT[20]	Hex		1
Motion Groups	Monitor Tag - msgWritePnozMulti			MESSAGE			1
Trends	- Edit Tag Properties	Alt+Enter		SINT[20]	Hex		1
🚍 🚔 Data Types	Edit Data Type						1
User-Defined	Create Tag which aliases - msgWrit	ePnozMulti					1
	Trend Tag - msgWritePnozMulti						1
Hodule-Defined	Go to Cross Reference	Ctrl+E					1
E G I/O Configuration	Go to Axis Wizard						1
[3] 1756-DNB myDeviceNetScanner	Go to Axis Properties						1
-	Go to Coordinate System Wizard						l
	Go to Coordinate System Properties	5					1
	Go to Motion Group Wizard						1
	Go to PID Properties						1
	Go to Message Properties						1
	Go to Cam/Cam Profile Editor						1
	Go to Output Cam Editor						1
	Go to Message Path Editor						1
	Go To	Ctrl+G					1
	Options						l
	Cut	Ctrl+X					1
	Сору	Ctrl+C					I
	Paste	Ctrl+V					
	Delete	Del		. (· · · ·	·
	Monitor Tags			•			

Message Configuration - msgWritePnozMulti	×
Configuration* Communication Tag	
Message <u>Type:</u> CIP Generic	•
Service Set Attribute Single	Source Element: ToPnozMulti
Тұре:	Source Length: 20 🐳 (Bytes)
Service 10 (Hex) <u>Class:</u> 4 (Hex)	
Instance: 150 Attribute: 3 (Hex)	New Tag
🔾 Enable 🔾 Enable Waiting 🔾 Start	O Done Done Length: 0
Error Code: Extended Error Code:	🔲 Timed Out 🗲
Error Path: Error Text:	
OK	Abbrechen Ü <u>b</u> ernehmen Hilfe

R5Logix 5000 - myController [1756-L55]* - File Edit View Search Logic Communication	[Controller Tags - myController(control ons Tools Window Help	ller)]		X
File Edit View Search Logic Communication Forces File Edit View Search Logic Communication Forces File Edit View Search Logic Communication Forces File Edit View Search Logic Communication File Edit View Search Logic Communication Forces Forces File Edit View Search Logic Communication Forces Forces File Edit File	Image: State of the state	xplane\0" xplane\0" xplane\0" xplane\0" xplane\0" xplane\0" xplane\0	Tag Name ▼ AB:1756 AB:1756 AB:1756 AB:1756 AB:1756 AB:1756 MESSAGE SINT[20] MESSAGE SINT[20] SINT[20] SINT[20]	Style Description
Module-Defined I/O Configuration I/3 1756-DNB myDeviceNetScanner	 Montor Tegs Edit Tegs Downloading all Tasks Downloading Task: Maint Downloading Controller Linking All Routines Complete - 0 error(s). Errors A Search Results 	Jask attributes 0 warning(s)	<u>•]</u>	

Produce data from this tag to another controller

🕌 RSLogix 5000 - myController [1756-L55]* - [Program Tags - Mainl	Program]				_ 8 ×
A File Edit View Search Logic Communication	is Tools Window He	þ				_ 8 ×
	JE	- <u>&&</u> -	¥ 2 QQ			
	Path: CS-SAT\	172.16.210.19\Backplane\0*				
No Edits BAT		H F H/F (); (L); (U); Bit & Timer/Counter & Input/O	ONS OSR			
	Scope: MainProgr	am 🔄 Sh <u>o</u> w: Show All	💌 So <u>r</u> t: Ta	ag Name 💌		
Controller Tags	Tag Name	☑ Alias For	Base Tag	Туре	Style [Description 📃 🔺
Controller Fault Handler	▶ +-ReadTimer			TIMER		
Power-Up Handler	+-SendTimer			TIMER		
A MainTask	*					
Motion Groups Groups						
	Monitor Tag	s ∕Edit Tags /	1			• ·
	▲ Downloading Downloading Downloading Linking All Complete -	all Tasks Task: MainTask Controller attribut Routines O error(s), O warnin	es g(s)			
	Errors	K Search Results K Watch /				

Produce data from this tag to another controller



5.2.2 Test Data Exchange

BSLogix 5000 - myController [1756-L55]* - [Controller Tags - myController(controller)]						
Pile Edit View Search Logic Communical	tions Tools Window Help					<u>_8×</u>
	TRUE 🕑 💰 🗞 🐼 🚺					
Bem Bun	Path: CS-SAT\172.16.210.19\Backplane\0*	~ 유				
No Forces						
No Edits		(U)- ONS OSR				
	I ► Favorites Bit & Timer/Counter & Inp	ut/Output 🖌 Compare				
	Scope: myController(controlle Show: Show All	So <u>r</u> t: Ta	g Name 🗾			
Controller Tags	Tag Name 🗸 🗸	Value 🔸	Force Mask 🛛 🗲	Style 1	Гуре	Descriptic 📤
Controller Fault Handler		{}	{}	A	AB:1756_DNB_5	
E		{}	{}	A	AB:1756_DNB_4	
🖻 🚑 MainTask		{}	{}	A	AB:1756_DNB_St	
🗄 😂 MainProgram	±-msgReadPnozMulti	{}	{}	N	4ESSAGE	
Program Tags	── ──	{}	{}	Hex 9	SINT[20]	
MainRoutine		{}	{}	N	4ESSAGE	
	⊟-ToPnozMulti	{}	{}	Hex S	SINT[20]	
Ungrouped Axes	+-ToPnozMulti[0]	16#00		Hex 9	SINT	
Trends	ToPnozMulti[1]	16#00		Hex 9	SINT	
🖻 🗁 Data Types	-ToPnozMulti[2]	16#00		Hex S	SINT	
User-Defined	-ToPnozMulti[3]	16#00		Hex S	SINT	
E - Leg Strings		16#03		Hex 9	SINT	
		16#00		Hex S	SINT	
E G I/O Configuration	ToPnozMulti[6]	16#00		Hex S	SINT	
[3] 1756-DNB myDeviceNetScanner	+-ToPnozMulti[7]	16#00		Hex S	SINT	
		16#00		Hex S	SINT	
	+-ToPnozMulti[9]	16#00		Hex S	SINT	
	+-ToPnozMulti(10)	16#00		Hex 9	SINT	
		16#00		Hex 9	SINT	
	+-ToPnozMulti[12]	16#00		Hex 9	SINT	
	+-ToPnozMulti(13)	16#00		Hex 9	SINT	
	ToPnozMulti[14]	16#00		Hex 9	SINT	
	+-ToPnozMulti(15)	16#00		Hex 9	SINT	
		16#00		Hex S	SINT	
	+-ToPnozMulti[17]	16#00		Hex S	SINT	
		16#00		Hex S	SINT	
		16#00		Hex S	SINT	
	Monitor Tags / Edit Tags /	•				

Enter a tag value

🕌 RSLogix 5000 - myController [1756-L55]*	* - [Controller Tags - myController(controller)]					_ 8 ×
🏹 File Edit View Search Logic Communica	ations Tools Window Help					_ 8 ×
	TRUE 🗾 💰 🗞 🚴					
Rem Run 🔋 📮 Run Mode	🔄 🌇 Path: CS-SAT\172.16.210.19\Backplane\0*	- *				
No Edits)- ONS OSR				
	Scope: myController(controlle Show: Show All	💌 So <u>r</u> t: Tag	Name 💌			
Controller Tags	Tag Name 🗸	Value 🔸	Force Mask 🛛 🗲	Style	Туре	Descriptic 🔺
Controller Fault Handler	-FromPnozMulti	{}	{}	Hex	SINT[20]	
Power-Up Handler	-FromPnozMulti[0]	16#80		Hex	SINT	
A MainTask	FromPnozMulti[0].0	0		Decimal	BOOL	
🖻 🚭 MainProgram	-FromPnozMulti[0].1	0		Decimal	BOOL	
Program Tags	-FromPnozMulti[0].2	0		Decimal	BOOL	
MainRoutine	FromPnozMulti[0].3	0		Decimal	BOOL	
Unscheduled Programs	FromPnozMulti[0].4	0		Decimal	BOOL	
Upgrouped Axes	FromPnozMulti[0].5	0		Decimal	BOOL	
Trends	FromPnozMulti[0].6	0		Decimal	BOOL	
🖻 📇 Data Types	FromPnozMulti[0].7	1		Decimal	BOOL	
User-Defined	+-FromPnozMulti[1]	16#00		Hex	SINT	
	+-FromPnozMulti[2]	16#00		Hex	SINT	
	-FromPnozMulti[3]	16#30		Hex	SINT	
	FromPnozMulti[3].0	0		Decimal	BOOL	
[3] 1756-DNB myDeviceNetScanner	-FromPnozMulti[3].1	0		Decimal	BOOL	
	-FromPnozMulti[3].2	0		Decimal	BOOL	
	FromPnozMulti[3].3	0		Decimal	BOOL	
	FromPnozMulti[3].4	1		Decimal	BOOL	
	FromPnozMulti[3].5	1		Decimal	BOOL	
	FromPnozMulti[3].6	0		Decimal	BOOL	
	FromPnozMulti[3].7	0		Decimal	BOOL	
	+-FromPnozMulti[4]	16#03		Hex	SINT	
	+-FromPnozMulti[5]	16#00		Hex	SINT	
	-FromPnozMulti[6]	16#02		Hex	SINT	
	FromPnozMulti[6].0	0		Decimal	BOOL	
	FromPnozMulti[6].1	1		Decimal	BOOL	
	FromPnozMulti[6].2	0		Decimal	BOOL	
	FromPhozhduybil613	0		Decimal	ROOL ,	<u> </u>
	Monitor Tags / Edit Tags /	•				

5.3 Example Communication with Omron

Prova_1 - DeviceNet Configurator									_ 8 ×
Network Edit View Device EDS File Tools	Option Help		I .+**	- 1			~ 		
AC Drives Generia Durpose Discrete 1/D Generia Durpos	2 3 X 10 C X 00 CS1W-DRM21 PNC -	*01 2multinc							
Ready				COM1:TC	OLBUS L	InitNo:000.000.0	1 115200 Bit/s 🔘	Off-line	
🏄 Start 👩 🞯 😻 🏾 🧐 Posta in arrivo p	r d.aliol 🔀 Prova_	1 - DeviceNet	Keysistem_1.do	c - Open	Desk	top 🎽 Indirizzo	Collegamenti 🎇	u 🗞 🚳 🖓	200 8.07

Be sure to use always the actual eds file...



Prova_1 - DeviceNet Configurator	
Network Edit View Device EDS File Tools Image: Second Seco	Option Help Image: Communication Cycle Time Message Timer Slave Function General I/O Allocation(IN) Unregister Device List # Product Name Out Size In Size Register Device List # Product Name Out Size In Size Image: State Device List # Product Name Out Size In Size Image: State Device List Image: State Device List
	Upload Download Compare
	OK Annulla
Ready	COM1:TOOLBUS UnitNo:000.000.01 115200 Bit/s O Off-line
🏄 Start 🧔 🚱 🅘 🔌 🧐 Posta in arrivo j	per d.aliol 🛃 Prova_1 - DeviceNet 📄 Keysistem_1.doc - Open Desktop 🎽 Indirizzo Collegamenti 🎽 🔟 « 🗞 🧐 👷 綛 8.07

Advanced Setup...Connection...

Revea_1 - DeviceNet Configurator Network Edit View Device EDS File Tools	ls Option Help	_ - ×
Network Edit View Device EDS File Tools	is Option Help	
General Purpose Discrete I/O General Purpose Discrete I/O Generic Device Generic Device	OUT Size: 20 Byte IN Size: 20 Byte ✓ User Setup ✓ Use Poll Connection OUT Size: 20 Byte OUT Size: 20 Byte IN Size: 20 Byte Con. Path : Output Data ✓ Con. Path : Input Data ✓ Use Bit/Stobe Connection OUT Size: 0 Byte IN Size : 0 Byte Con. Path : ✓ Con. Path : ✓ 0 Byte IN Size : 0 Use COS Connection ✓ Output Data ✓ Ø Ø Ø	
	Con. Path: Con. Path: Byte Con. Path: Con. Path: Use Cyclic Connection OUT Size: Dyte Con. Path: Con. Path: Con	
Ready 2 Start 🧃 🕑 🐌 » 😋 Posta in arrivo	COM1:TOOLBUS UnitNo:000.000.01 115200 Bit/s O Off-line	0, 8,09

User Setup...use only Poll Connection with 20 Byte OUT and 20 Byte IN

•••



Selezionare l'area di memoria I/O desiderata...

Prova_1 - DeviceNet Configurator Network Edit View Device EDS File Tools	Option Help
Prova_1 - DeviceNet Configurator Network Edit View Device DDS File Tods Image: Second Sec	Cption Help
Ready 2) Start 🧶 🚱 😻 " 😋 Posta in arrivo	COM1:TOOLBUS UnitNo:000.000.01 115200 Bit/s O off-line per d.aliol Image: Comparison of the compar

...



6 Interbus-S (PNOZ mc5p)

BS CMD G4 D:\Prog\IBS\IBS_(MD\PROJECT\	NONAME.BG4				_	<u> 8 ×</u>
Datei Bearbeiten Ansicht Configu	ration Monitor	Diagnose Extras ?					
		· · · 🕄 🛂 🕨 🕨					
Projekt							
Steuerung/Rechner							
Anschaltbaugruppel Parametrierungs	eneicher Vorvera	rheitung. Konfigurationsrahmen					
	speichei voiveia						
Finfügen	Stra+V	<mark>»</mark>					
Einfügen mit ID-Code	Sugar L						
Einfügen mit Beschreibung	Einfg.						
Verknüpfen mit Beschreibung	-						
Neu Numerieren							
Possbroibupa	E0						
Prozessdaten	StratD						
Parametrierung	bugit.						
Einstellungen	Stra+5						
Bedienen	+						
Kommunikationsweg	Strg+K						
Тур	-						
IB-Funktionsblöcke	•						
Betriebsmittel-Kennzeichnung							
Adressmonitor	Stro+M						
Display IBS DSC	Sagni						
Diagnose							
E-CAD-Betrachter	Strg+N						
N 711 11 15 0 1 15	1.1.12	· e.					
Neuen Teilnehmer über ID-Code und Pr	rozessdatenlange	eintugen					
🕼 Start 🛛 🎢 🙈 😭 🖉 🔍 Wir	ndows Task-Man.	. 🔍 ibs beschreibung	💮 Markus Wisura - Ein	BIBS CMD G4 D:\Pr	Bus-Diagnose - Proj	🐠 N 🗇 🔈 📴 📕 🔗	15:06

Teilnehmer einfügen				x
ĮD-Code:	3	⊙ he <u>x</u> .	○ <u>d</u> ez.	
<u>P</u> rozessdatenkanal:	160	Bit		
Pa <u>r</u> ameterkanal:	_			
Teilnehmerar	t			
● Eernl	busteilnehmer			
⊂ B <u>u</u> sk	oppler mit Lokalt	busabzweig		
C Bu <u>s</u> k	oppler mit Fernb	usabzweig		
CLoka	lbusteilnehmer			
	1	1		
<u>о</u> к	Abbrechen	<u>H</u>	lilfe	

Teilnehmerbeschreibung einfü	igen	X
_ Teilnehmerbeschreibung —		
		<u>S</u> chnittstellentyp
<u>T</u> eilnehmernummer:	1.0	Darstellung
<u>G</u> ruppennummer:		Parameter <u>k</u> anal
Stationsna <u>m</u> e:	PNOZmulti	
<u>S</u> ervice-Info:		Individuell zuweisen
T <u>e</u> ilnehmername:		
He <u>r</u> stellername:		
Gerätetyp:		
ID-Code:	3 dez.	Profi <u>l</u> nummer: 0 hex.
Prozessdatenkanal:	160 Bit	Parameterkanal:
Teilnehmer ausble <u>n</u> den		<u>∏</u> <u>B</u> ox-Darstellung
<u>o</u> ĸ	<u>A</u> bbrechen	Hilfe

IBS CMD G4 D:\Prog\IBS\IB	BS_CMD\PROJECT\NONAME.BG4		_ 8 ×
Datei Bearbeiten Ansicht Cor	nfiguration Monitor Diagnose Ext		
	_ ■ ■ <u>·</u>; :+ :+ &		
Projekt			
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Steuerung/Rechner			
Anschaltbaugruppe Parametrieru	ungsspeicher Vorverarbeitung Konfig		
U tr	<mark>⁄0</mark> <mark>7</mark> _8	- <mark>Sa</mark> lahatan Ing Katalahatan Ing Katala	
PN0Zmulti 1			
1.0			
D	Digitaler Prozessdatenmonitor ((1.0) X	
	Name:	Datenrichtung:	
ID:3 (3h)	160-Bit_Eingang_1	Eingang	
	Bit 7 6 5 4 3 2	1 0 Wert	
	Byte 0		
	Byte 2		
	Byte 3 🛄 🛄 🛄 🛄		
	Byte 5 0 0 0 0 0 0		
	Byte 6		
	Byte 7		
	Schließen Rückgängig	<u>B</u> earbeiten ►	
-			
Status: Bus läuft		Zustand: Monitoring Frweitert	
🚮 Start 🛛 😭 🧶 🗐 🖉	Windows Task	bung Markus Wisura 🗱 IBS CMD G4 D 🗃 Dokument1 - M	🍕 N 🔍 🔊 📴 📕 🤔 15:12

7 CC-Link

7.1 What is CC-Link

Open Fieldbus from Mitsubishi

Baud Rate [bps]	156K	625K	2,5M	5M	10M	
Distance [m]	1200	600	200	150	100	
Max. Stations	64					
Addresses per	2048 I/O and 265 Register I/O					
Network	(words)					
Addresses per Station	32 I/O and 8 Register I/O					

http://www.cc-link.org/eng/t_html/top.html

7.2 PNOZmulti Data in the CC-Link Registers

Register	Co	ntent	System Q Address in Sample
RX00-0F	Output status	o00 – o15	X10-X1F
RX10-1F	LED status	Output status o16 – o23	X20-X2F
RWr00	Table no.	Segment no.	D1000
RWr01	Byte 0	Byte 1	D1001
RWr02	Byte 2	Byte 3	D1002
RWr03	Byte 4	Byte 5	D1003
RWr04	Byte 6	Byte 7	D1004
RWr05	Byte 8	Byte 9	D1005
RWr06	Byte 10	Byte 11	D1006
RWr07	Byte 12	Reserved	D1007

n	7	6	5	4	3	2	1	0
X1n	o07	006	005	o04	003	o02	o01	000
X2n	o23	o22	o21	o20	o19	o18	o17	o16
n	F	Е	D	С	В	А	9	8
n X1n	F 015	E 014	D 013	C 012	B 011	A 010	9 009	8 008
n X1n X2n	F 015	E 014	D 013	C o12 LED :	B o11 status	A 010	9 009	8 008

The status of the LEDs is stored in RX18 ... RX1F:

X28 = 1: OFAULT LED is lit

X29 = 1: IFAULT LED is lit

X2A = 1: FAULT LED is lit

X2B = 1: DIAG LED is lit

X2C = 1: RUN LED is lit

X2D = 1: If communication between PNOZmulti and CC-Link is working

X2E: Reserved

X2F: Reserved



7.3 Sample with MELSEC System Q and GX IEC Developer

Mitsubishi MELSEC System Q Q00JCPU as CC-Link Master (Address 0, Baudrate 10Mbps) PNOZmc1p with PNOZmc7p as CC-Link Slave (Address 1, Baudrate 10Mbps)

7.3.1 Configure the Network

Open MELSEC GX IEC Developer.

In the Parameter Branch of the Project Tree double click on "Network". Then click on the CC-Link Button.

In the CC-Link configuration window change the number of boards in module to 1. In column 1 change the "All connect count" entry to 1 as we have only one station. Map the Registers as shown in the following screenshot

🛃 PNOZmulti_Q - GX IEC Developer - [Network pa	arameters	Setting the CC-Link list.]			
Project Object Edit Tools Online Debug Vie	ew E <u>x</u> tras	<u>Window H</u> elp			_ 8 ×
	a 2 4	9 (m) H4 (A J. B. B. L. (m)			
	▝▋▛▕▋▛▔▏▝				
PNOZmulti_Q ====================================					
Project [E:\temp\japan\PNOZmulti_Q]	No. of boa	rds in module 🛛 💌 Boards 🛛 🛛	Blank: no setting.		
🗄 📲 🛗 Library_Pool					
Parameter		Check L/O, Mar	0000	2	3
PLC		Deerational setting	Operational settings		
		Tune	Master station	•	
		Master station data link type	PLC parameter auto start	-	
MOIN (Pric = 31 Event = TRUE)		Mode	Remote net(Ver.1 mode)	-	
		All connect count	1		
Global Yars		Remote input(RX)	×10		
		Remote output(RY)	Y10		
		Remote register(RWr)	D1000		
1 1		Remote register(RWw)	D2000		
1 1		Ver.2 Remote input(RX)			
Network parameter		Ver.2 Remote output(RY)			
		Ver.2 Remote register(RWr)			
MELSECNET/Ethernet		Ver.2 Remote register[RWw]	0.00		
NELOSONET INNU		Special relay(SB)	580		
MELSEUNET 7 MINI		Betry equat	300		
CC-Link		Automatic recomposition station count	1		
		Stand bu master station No.			
Cancel		PLC down select	Stop 🗸	-	
		Scan mode setting	Asynchronous -	-	
1 1		Delay information setting	0		
1 1		Station information setting	Station information		
1 1		Remote device station initial setting	Initial settings		
1 1		Interrupt setting	Interrupt settings		
1 1					
1 1					
1 1					
1 1					
1 1	In	idispensable settings[No setting /	Already set j Set if it is needed[No setting 7 Already set J	
1 1	Setting item				
1 1					
1 11	Acknow	vledge XY assignment Clear	Check End	Cancel	
	•				
Ready				🕒 15:03	

Click on "Station Information" Set the following :

CC-Link st	ation information. Module :	l									×
		Exp	anded	Exclusive station	Remote station		Reserve/invali	d Ini	telligent	buffer sele	ct(word) 🔺
Station No.	Station type	cyclic	: setting	count	points		station select		Send	Receive	Automatic
1/1	Remote device station	🔻 single	-	Exclusive station 2 💌	64 points	Ŧ	No setting	•			-
	Defeat	1	CI-				-1				
	Derault		Un	еск Е		81					

From the Project Menu chose rebuild all and download

7.3.2 Application Program

There is no application program necessary to read or write data.

7.3.3 Test Data Exchange

From the Online Menu start the Entry Data Monitor and enter the required Addresses to the first column. To request segment 0 of table 3 from the PNOZmulti set D2000 to 16#0300. The Answer of the PNOZmulti can be read in D1000 to D1007.

EDM Entry	Data Monitor				Ľ
Pos	Address (MIT)	Name	Value (hex)	Value (bin)	
1	K4X10	K4X10	80	00000000 10000000	
2	K4X2O	K4X2O	3000	00110000 00000000	
3					
4					
5	D2000	D2000	300	00000011 00000000	
6					
7	D1000	D1000	300	00000011 00000000	
8	D1001	D1001	200	00000010 00000000	
9	D1002	D1002	0	00000000 00000000	
10	D1003	D1003	0	00000000 00000000	
11	D1004	D1004	0	00000000 00000000	
12	D1005	D1005	0	00000000 00000000	
13	D1006	D1006	0	00000000 00000000	
14	D1007	D1007	0	00000000 00000000	
• <u></u>	1				•

What you can see from the Data

Bus Output 07 is set to one X17 LED RUN is on

Communication between mc7p and mc1p is running

User requested Table 3 Segment 0 in D2000 mc7p echoes in D1000 Bit 9 of D1001 is set that means Bit 1 of Byte 0 of Segment 0 is set.

Additional Info :



8 CANopen (PNOZ mc6p)

8.1 What is CANopen ?

- Standardized system solution for CAN-based automation
- CANopen standard is currently established in Version CiA/DS301 V4.02 and is a European Standard CENELEC EN 50325-4
- PILZ INTERFACE: CANopen conformance: CIA DS-301 V3.0 !!!!



Service Data Object (SDO)

An SDO provides a client access to entries (objects) of a device OD (the device is the server) using the object's OD index and subindex, contained in the first few bytes of the CAN-message.

Process Data Object (PDO)

Is used to transfer real-time data; data is transferred from one (and only one) producer to one or more consumers. Data transfer is limited to 1 to 8 bytes (for example: one PDO can transfer at maximum 64 digital I/O values, or 4 16-bit analogue inputs). It has no protocol overhead. The data content of a PDO is defined through its CANidentifier only and this content is assumed known to sender as well as receiver(s) of the PDO.

8.1.1 CANopen Object Dictionary

CANop	pen (Obje	et Dictionary
Inc	dex		Object
0000			not used
0001 -	- 0)01F	Static Data Types (standard data types, e.g. Boolean, Integer16)
0020 -	- 0)03F	Complex Data Types (predefined structures composed of standard
			data types, e.g. PDOCommPar, SDOParameter)
0040 -	- 0)05F	Manufacturer Specific Complex Data Types
- 0060 -	- 0)07F	Device Profile Specific Static Data Types
- 0080 -	- 0)09F	Device Profile Specific Complex Data Types
00A0 -	- 0	FFF	reserved
1000 -	- 1	FFF	Communication Profile Area
			(e.g. Device Type, Error Register, Number of PDOs supported)
2000 -	- 5	FFF	Manufacturer Specific Profile Area
6000 -	- 9	FFF	Standardised Device Profile Area (e.g. "DSP-401 Device Profile for
			I/0 Modules" [3]: Read State 8 Input Lines, etc.)
A000 -	- F	FFF	reserved

8.2 Adressing the Pilz interface ?

Note on the PNOZ mc6p (CANopen): The output data on the PNOZmulti is stored as follows:

The input data on the PNOZmulti is stored as follows:

	Object	Sub-		000.00		Object	Sub-		
Byte	code	index	PDO	COB-ID	Byte	code	index	PDO	COB-ID
0	2000	1			0	2100	1		
1	2000	2			1	2100	2		
2	2000	3		190	2	2100	3		200
3	2000	4	TPDO 1	+ node	3	2100	4		+ node
4	2000	5	16001	address	4	2100	5		address
5	2000	6			5	2100	6		
6	2000	7			6	2100	7		
7	2000	8			7	2100	8		
8	2000	9			8	2100	9		
9	2000	A			9	2100	A		
10	2000	В			10	2100	В		
11	2000	С	TEDO 2	280	11	2100	С		300
12	2000	D	1600 2	addrose	12	2100	D	RFDU 2	addrose
13	2000	E		audiess	13	2100	E		auuress
14	2000	F			14	2100	F		
15	2000	10			15	2100	10		
16	2000	11		100	16	2100	11		040
17	2000	12	TPDO 3	+ node	17	2100	12		240 ± node
18	2000	13	11203	address	18	2100	13	HF DO 3	address
19	2000	14			19	2100	14		000

8.3 Example With Hilscher CANopen pc master

Faster - SyCon - [PNOZmulti_001.co]	ln.		_ 문 ×
	P		
<u> </u>			
	Master		
COM OP CARL	Master	CIF50-COM	
	Node1 Node ID Node	1 PNOZmulti mc6p	
, For Help, press F1		CANopen	Config Mode

e Configuratio	n										
Node	PNOZmulti mc6p					N	lode ID (address)	[1	<u>K</u>
Description	Node1					G	iuard tim	e (msec.)	Í	200	<u>C</u> ancel
File name	PNOZMC6P.EDS					L	.ife time f	actor	Í	0	Node BootUp
 Activate node 	e in act <u>u</u> al configu	ration				E	mergeno	y COB-ID	Í	129	
Automatic CO	B- <u>I</u> D allocation in	accorda	nce with	Profile 3	101	N	lodequar	d COB-ID	Í	1793	
Device <u>P</u> rofile	0 De	evice type	. 0								O <u>bj</u> ect Configuration
Predefined Proce	ss Data Objects (i	PDOs) fro	om EDS	file					ΓA	ctual node	
Obj.ldx. PDO r	iame								IF	I / PNOZm	ulti mc6p 🛛 💌
1400 Recei	ve PD01 Paramet	er							Ľ		
1401 Recei	/e PDO2 Paramet	er							ΓP	DO mappir	ig method
1402 Recei	ve PDO3 Paramet	er								DS301 V3	-
1800 Transr	nit PD01 Paramet	er						_	L		
1801 Fransr	nit PDU2 Paramet	er									c 1000 1
1802 Fransr	nit PDU3 Paramet	er							_	Add to cor	rigurea PDUs
Configured PDOs											
PDO name	Symbolic Name	COB-ID	І Туре	I Addr.	I Len.	О Туре	0 Addr.	0 Len.		PD0 C	ontents <u>M</u> apping
Receive PD01	PDO_1400	513				QB	0	8			Channelation
Receive PD02	PD0_1401	769				QB	8	8		PDU	Unaracteristics
Receive PD03	PD0_1402	577				QB	16	8		Define n	ew <u>R</u> eceive PDO
Transmit PD01	PD0_1800	385	IB	0	8					Define a	ou Transmit PDO
Transmit PD02	PD0_1801	641	IB	8	8					Denne h	
Transmit PD03	PD0_1802	449	IB	16	8					<u>D</u> elete	e configured PDO
										Su	mbolic Names

Mapable	Ubjects from			 <u> </u>
Ubj.Idx.	Sub.Idx.	Parameter	Access	
2000	1	Byte 00 : Input 0007	Read	 <u>L</u> ancel
2000	2	Byte 01 : Input 0815	Read	
2000	3	Byte 02 : Input 1623	Read	
2000	4	Byte 03 : LED State	Read	
2000	5	Byte 04 : Table Number	Read	Append Object
2000	6	Byte 05 : Segment Number	Read	
2000	7	Bute 06 ; Bute 00 Of Seame	nt Bead	
Mapped (Obj.Idx.	Dbject dictio	nary Parameter	Symbolic name	
Mapped (Obj.Idx. 2100	Dbject dictio Sub.Idx.	nary Parameter Byte 00 : Reserved	Symbolic name	
Mapped (Obj.Idx. 2100 2100	Dbject dictio Sub.Idx. 1 2	nary Parameter Byte 00 : Reserved Byte 01 : Reserved	Symbolic name Object2100ldx1 Object2100ldx2	
Mapped (Obj.Idx. 2100 2100 2100	Dbject dictio Sub.Idx. 1 2 3	nary Parameter Byte 00 : Reserved Byte 01 : Reserved Byte 02 : Reserved	Symbolic name Object2100ldx1 Object2100ldx2 Object2100ldx3	
Mapped (Obj.Idx. 2100 2100 2100 2100 2100	Dbject dictio Sub.Idx. 1 2 3 4	nary Parameter Byte 00 : Reserved Byte 01 : Reserved Byte 02 : Reserved Byte 03 : Reserved	Symbolic name Object2100ldx1 Object2100ldx2 Object2100ldx3 Object2100ldx4	
Mapped (Obj.ldx. 2100 2100 2100 2100 2100	Dbject dictio Sub.Idx. 1 2 3 4 5	nary Parameter Byte 00 : Reserved Byte 01 : Reserved Byte 02 : Reserved Byte 03 : Reserved Byte 04 : Table Number	Symbolic name Object2100ldx1 Object2100ldx2 Object2100ldx3 Object2100ldx4 Object2100ldx5	
Mapped (Obj.ldx. 2100 2100 2100 2100 2100 2100 2100	Dbject dictio Sub.Idx. 1 2 3 4 5 6	Nary Parameter Byte 00 : Reserved Byte 01 : Reserved Byte 02 : Reserved Byte 03 : Reserved Byte 03 : Reserved Byte 04 : Table Number Byte 05 : Segment Number	Symbolic name Object2100ldx1 Object2100ldx2 Object2100ldx3 Object2100ldx4 Object2100ldx5 Object2100ldx6	Dubb succession d Oking t
Mapped (Obj.Idx. 2100 2100 2100 2100 2100 2100 2100 210	Diject dictio Sub.Idx. 1 2 3 4 5 6 7	nary Parameter Byte 00 : Reserved Byte 01 : Reserved Byte 02 : Reserved Byte 03 : Reserved Byte 04 : Table Number Byte 05 : Segment Number Byte 06 : Reserved	Symbolic name Object2100ldx1 Object2100ldx2 Object2100ldx3 Object2100ldx4 Object2100ldx5 Object2100ldx6 Object2100ldx7	Delete mapped Object



Obi.ldx.	Sub.Idx.	Parameter	4	Access	<u></u>
2000	1	Byte 00 : Input 0007		Read	<u>C</u> ancel
2000	2	Byte 01 : Input 0815	F	Read	
2000	3	Byte 02 : Input 1623	F	Read	
2000	4	Byte 03 : LED State	F	Read	
2000	5	Byte 04 : Table Number	F	Read	Append Object
2000	6	Byte 05 : Segment Num	ber f	Read	
2000	7	Byte 06 : Byte 00 Of Sec	ament P	Road	
	51 · · · · · ·	· · ·		licau	
Mapped (Obj.Idx.	Dbject dictio	nary Parameter	Symbolic na	ame	
Mapped (Obj.Idx. 2100	Dbject dictio Sub.Idx. 11	nary Parameter Byte 16 : Reserved	Symbolic na Object2100	ame Ildx17	
Mapped (Obj.Idx. 2100 2100	Dbject dictio Sub.Idx. 11 12	nary Parameter Byte 16 : Reserved Byte 17 : Reserved	Symbolic na Object2100 Object2100	ame Ildx17 Ildx18	
Mapped (Obj.Idx. 2100 2100 2100	Dbject dictio Sub.Idx. 11 12 13	nary Parameter Byte 16 : Reserved Byte 17 : Reserved Byte 18 : Reserved	Symbolic na Object2100 Object2100 Object2100	ame Ildx17 Ildx18 Ildx19	
Mapped (Dbj.Idx. 2100 2100 2100 2100 2100	Dbject dictio Sub.Idx. 11 12 13 14	nary Parameter Byte 16 : Reserved Byte 17 : Reserved Byte 18 : Reserved Byte 19 : Reserved	Symbolic na Object2100 Object2100 Object2100 Object2100 Object2100	ame Jidx17 Jidx18 Jidx19 Jidx20	
Mapped (Obj.Idx. 2100 2100 2100 2100 2100 2100	Dbject dictio Sub.Idx. 11 12 13 14 15	nary Parameter Byte 16 : Reserved Byte 17 : Reserved Byte 18 : Reserved Byte 19 : Reserved Byte 20 : Reserved	Symbolic na Object2100 Object2100 Object2100 Object2100 Object2100 Object2100	ame 0dx17 0dx18 0dx19 0dx20 0dx20	
Mapped (Obj.Idx. 2100 2100 2100 2100 2100 2100 2100	Dbject dictio Sub.Idx. 11 12 13 14 15 16	nary Parameter Byte 16 : Reserved Byte 17 : Reserved Byte 18 : Reserved Byte 19 : Reserved Byte 20 : Reserved Byte 21 : Reserved	Symbolic na Object2100 Object2100 Object2100 Object2100 Object2100 Object2100	ame 0dx17 0dx18 0dx19 0dx20 0dx20 0dx21 0dx22	Databased Obies
Mapped (Obj.Idx. 2100 2100 2100 2100 2100 2100 2100 210	Dbject dictio Sub.Idx. 11 12 13 14 15 16 17	nary Parameter Byte 16 : Reserved Byte 17 : Reserved Byte 18 : Reserved Byte 19 : Reserved Byte 20 : Reserved Byte 21 : Reserved Byte 22 : Reserved	Symbolic na Object2100 Object2100 Object2100 Object2100 Object2100 Object2100 Object2100	ame IIdx17 IIdx18 IIdx19 IIdx20 IIdx21 IIdx22 IIdx22	Delete mapped Objec

Obj.Idx.	Sub.Idx.	Parameter	Access		<u></u>
2000	1	Byte 00 : Input 0007	Read		<u>C</u> ancel
2000	2	Byte 01 : Input 0815	Read		
2000	3	Byte 02 : Input 1623	Read		
2000	4	Byte 03 : LED State	Read		
2000	5	Byte 04 : Table Number	Read		Append Object
2000	6	Byte 05 : Segment Number	Read		
2000	7	Byte 06 : Byte 00 Of Segme	nt Read	-	
Mapped (Dbject dictio	nary]
Mapped (Obj.Idx.	Dbject dictio Sub.Idx.	nary Parameter	Symbolic name	_	
Mapped (Obj.Idx. 2000	Dbject dictio Sub.Idx. 1	nary Parameter Byte 00 : Input 0007	Symbolic name Object2000Idx1	<u> </u>	
Mapped (Obj.1dx. 2000 2000	Dbject dictio Sub.Idx. 1 2	nary Parameter Byte 00 : Input 0007 Byte 01 : Input 0815	Symbolic name Object2000ldx1 Object2000ldx2		
Mapped (Obj.1dx. 2000 2000 2000	Dbject dictio Sub.Idx. 1 2 3	nary Parameter Byte 00 : Input 0007 Byte 01 : Input 0815 Byte 02 : Input 1623	Symbolic name Object2000Idx1 Object2000Idx2 Object2000Idx3	•	
Mapped (Obj.Idx. 2000 2000 2000 2000	Dbject dictio Sub.Idx. 1 2 3 4	Parameter Byte 00 : Input 0007 Byte 01 : Input 0815 Byte 02 : Input 1623 Byte 03 : LED State	Symbolic name Object2000Idx1 Object2000Idx2 Object2000Idx3 Object2000Idx4	•	
Mapped (Obj.1dx. 2000 2000 2000 2000 2000 2000	Dbject dictio Sub.Idx. 1 2 3 4 5	Parameter Byte 00 : Input 0007 Byte 01 : Input 0815 Byte 02 : Input 1623 Byte 03 : LED State Byte 04 : Table Number	Symbolic name Object2000Idx1 Object2000Idx2 Object2000Idx3 Object2000Idx4 Object2000Idx5		
Mapped (Obj.Idx. 2000 2000 2000 2000 2000 2000 2000	Diject dictio Sub.Idx. 1 2 3 3 4 5 6	Parameter Byte 00 : Input 0007 Byte 01 : Input 0815 Byte 02 : Input 1623 Byte 03 : LED State Byte 04 : Table Number Byte 05 : Segment Number	Symbolic name Object2000Idx1 Object2000Idx2 Object2000Idx3 Object2000Idx4 Object2000Idx5 Object2000Idx6		
Mapped (Obj.Idx. 2000 2000 2000 2000 2000 2000 2000 20	Diject dictio Sub.Idx. 1 2 3 3 4 5 6 6 7	Parameter Byte 00 : Input 0007 Byte 01 : Input 0815 Byte 02 : Input 1623 Byte 03 : LED State Byte 04 : Table Number Byte 05 : Segment Number Byte 06 : Byte 00 Of	Symbolic name Object2000Idx1 Object2000Idx2 Object2000Idx3 Object2000Idx4 Object2000Idx5 Object2000Idx6 Object2000Idx7		Delete mapped Object

Obi.Idx.	Sub.Idx.	Parameter		Access		<u></u>
2000	1	Byte 00 : Input 0007		Read		<u>C</u> ancel
2000	2	Byte 01 : Input 0815		Read		
2000	3	Byte 02 : Input 1623		Read		
2000	4	Byte 03 : LED State		Read		
2000	5	Byte 04 : Table Number		Read		Append Object
2000	6	Byte 05 : Segment Numb	ber	Read		
2000	7	Byte 06 : Byte 00 Of Sec	gment	Read	-	
Mapped 0	Diject dictio	nary				
Mapped (Obi.Idx.)bject dictio Sub.Idx.	nary Parameter	Symbolic r	name		
Mapped (Obj.Idx. 2000)bject dictio Sub.Idx. 9	nary Parameter Byte 08 : Byte 02 Of	Symbolic r Object200	name IOIdx9	-	
4apped 0 Obj.1dx. 2000 2000	Dbject dictio Sub.Idx. 9 A	nary Parameter Byte 08 : Byte 02 Of Byte 09 : Byte 03 Of	Symbolic r Object200 Object200	name Oldx9 Oldx10		
Mapped 0 Obj.1dx. 2000 2000 2000	Dbject dictio Sub.Idx. 9 A B	nary Parameter Byte 08 : Byte 02 Of Byte 09 : Byte 03 Of Byte 10 : Byte 04 Of	Symbolic r Object200 Object200 Object200	name Oldx9 Oldx10 Oldx11		
Mapped (Obj.Idx. 2000 2000 2000 2000	Dbject dictio Sub.Idx. 9 A B C	nary Parameter Byte 08 : Byte 02 Of Byte 09 : Byte 03 Of Byte 10 : Byte 04 Of Byte 11 : Byte 05 Of	Symbolic r Object200 Object200 Object200 Object200	name Oldx9 Oldx10 Oldx11 Oldx12		
Mapped 0 Dbj.1dx. 2000 2000 2000 2000 2000 2000	Dbject dictio Sub.Idx. 9 A B C D	Parameter Byte 08 : Byte 02 Of Byte 09 : Byte 03 Of Byte 10 : Byte 04 Of Byte 11 : Byte 05 Of Byte 12 : Byte 06 Of	Symbolic r Object200 Object200 Object200 Object200 Object200 Object200	name Oldx9 Oldx10 Oldx11 Oldx12 Oldx13		
Mapped 0 Obj.1dx. 2000 2000 2000 2000 2000 2000 2000	Dbject dictio Sub.Idx. 9 A B C D D E	Parameter Byte 08 : Byte 02 Of Byte 09 : Byte 03 Of Byte 10 : Byte 04 Of Byte 11 : Byte 05 Of Byte 12 : Byte 06 Of Byte 13 : Byte 07 Of	Symbolic r Object200 Object200 Object200 Object200 Object200 Object200	name Oldx9 Oldx10 Oldx11 Oldx12 Oldx13 Oldx13 Oldx14		
Mapped (Obj.Idx. 2000 2000 2000 2000 2000 2000 2000 20	Dbject dictio Sub.Idx. 9 A B C C D E F	Parameter Byte 08 : Byte 02 Of Byte 09 : Byte 03 Of Byte 10 : Byte 04 Of Byte 11 : Byte 05 Of Byte 12 : Byte 06 Of Byte 13 : Byte 07 Of Byte 14 : Byte 08 Of	Symbolic r Object200 Object200 Object200 Object200 Object200 Object200 Object200	name Oldx9 Oldx10 Oldx11 Oldx12 Oldx13 Oldx13 Oldx14 Oldx15		Delete mapped Object

Obj.Idx.	Sub.Idx.	Parameter	Ac	cess		<u></u>
2000	1	Byte 00 : Input 0007	Re	ad		<u>C</u> ancel
2000	2	Byte 01 : Input 0815	Re	ad		
2000	3	Byte 02 : Input 1623	Re	ad		
2000	4	Byte 03 : LED State	Re	ad		
2000	5	Byte 04 : Table Number	Re	ad		Append Object
2000	6	Byte 05 : Segment Numb	er Re	ad		
2000	7	Byte 06 : Byte 00 Of Seq	ment Be	bed	T	
		<u> </u>		au		
Mapped (Dbject dictio	nary				
Mapped (Obj.Idx.	Dbject dictio Sub.Idx.	nary Parameter	Symbolic nam	e		
Mapped (Obj.Idx. 2000	Dbject dictio Sub.Idx. 11	nary Parameter Byte 16 : Byte 10 Of	Symbolic nam Object2000Id;	ie x17		
Mapped (Obj.Idx. 2000 2000	Dbject dictio Sub.Idx. 11 12	nary Parameter Byte 16 : Byte 10 Of Byte 17 : Byte 11 Of	Symbolic nam Object2000ld; Object2000ld;	ie x17 x18		
Mapped (Dbj.Idx. 2000 2000 2000	Dbject dictio Sub.Idx. 11 12 13	nary Parameter Byte 16 : Byte 10 Of Byte 17 : Byte 11 Of Byte 18 : Byte 12 Of	Symbolic nam Object20001d; Object20001d; Object20001d;	ie x17 x18 x19		
Mapped (Obj.Idx. 2000 2000 2000 2000	Dbject dictio Sub.Idx. 11 12 13 14	nary Parameter Byte 16 : Byte 10 Of Byte 17 : Byte 11 Of Byte 18 : Byte 12 Of Byte 19 : Reserved	Symbolic nam Object20001d; Object20001d; Object20001d; Object20001d;	e x17 x18 x19 x20		
Mapped (Obj.Idx. 2000 2000 2000 2000 2000	Dbject dictio Sub.Idx. 11 12 13 14 15	nary Parameter Byte 16 : Byte 10 Of Byte 17 : Byte 11 Of Byte 18 : Byte 12 Of Byte 19 : Reserved Byte 20 : Reserved	Symbolic nam Object20001d; Object20001d; Object20001d; Object20001d; Object20001d;	e x17 x18 x19 x20 x21		
Mapped (Obj.Idx. 2000 2000 2000 2000 2000 2000 2000	Dbject dictio Sub.Idx. 11 12 13 14 15 16	nary Parameter Byte 16 : Byte 10 Of Byte 17 : Byte 11 Of Byte 18 : Byte 12 Of Byte 19 : Reserved Byte 20 : Reserved Byte 21 : Reserved	Symbolic nam Object2000ld; Object2000ld; Object2000ld; Object2000ld; Object2000ld; Object2000ld;	e x17 x18 x19 x20 x21 x22		
Mapped (Obj.Idx. 2000 2000 2000 2000 2000 2000 2000 20	Diject dictio Sub.Idx. 11 12 13 14 15 16 17	nary Parameter Byte 16 : Byte 10 Of Byte 17 : Byte 11 Of Byte 18 : Byte 12 Of Byte 19 : Reserved Byte 20 : Reserved Byte 21 : Reserved Byte 22 : Reserved	Symbolic nam Object20001d; Object20001d; Object20001d; Object20001d; Object20001d; Object20001d; Object20001d; Object20001d;	e x17 x18 x19 x20 x21 x22 x22 x23		Delete mapped Object

(/0)	Monito	r										×
	nput dat	ta										<u>о</u> к
	hex	0	1	2	3	4	5	6	7	8	9	
	0	80	00	00	30	03	00	02	00	00	00	DEC/HEX
	1	00	00	00	00	00	00	00	00	00	00	
	2	00	00	00	00	00	00	00	00	00	00	
	3	00	00									
	4											
	5											
	6											
	7											
)utput d	ata —										Undate
	dec	0	1	2	3	4	5	6	7	8	9	
	0	0	0	0	0	3	0	0	0	0	0	
	1	0	0	0	0	0	0	0	0	0	0	
	2	0	0	0	0	0	0	0	0	0	0	
	3	0	0									
	4											
	5											
	6											
	7											
												Effor 0

Byte 4 is set 3, that means read out table 3.

Ζ

8.4 Summary

- -
- -
- No communication profil Missing objects(i.e. 1018_h) Expansion of the object directory (Netstal) -
9 Ethernet (mc8p)

9.1 Sample IO communication with ControlLogix



create a new module



select the generic ethernet module

Select Module Type		×
<u>T</u> ype:	Major <u>R</u> evision:	
ETHERNET-MODULE	1	
Туре	Description	
1756-EWEB/A	1756 10/100 Mbps Ethernet Bridge w/Enhanced Web Services	_
1757-FFLD/A	1757 Foundation Fieldbus Linking Device	
1757-FFPC/A	1757 Foundation Fieldbus Process Controller	
1769-L35E Ethernet Port	10/100 Mbps Ethernet Port on CompactLogix5335E	
1788-ENBT/A	1788 10/100 Mbps Ethernet Bridge, Twisted-Pair Media	
1794-AENF/A	1794 10/100 Mbps Ethernet Adapter, Fiber Media	
1794-AENT/A	1794 10/100 Mbps Ethernet Adapter, Twisted-Pair Media	
ETHERNET-MODULE	Generic Ethernet Module	
PowerFlex 700 Vector-21	PowerFlex 700 Vector Drive (208/240V) via 20-COMM-E	
PowerFlex 700 Vector-4I	PowerFlex 700 Vector Drive (400/480V) via 20-COMM-E	
PowerFlex 700 Vector-61	PowerFlex 700 Vector Drive (600V) via 20-COMM-E	
PowerFlex 700-200V-E	PowerFlex 700 Drive (208/240V) via 20-COMM-E	-
- Show		
⊻endor: All	▼ ☑ Other ▼ Specialty I/O Select All	
🔽 A <u>n</u> alog 🔽 <u>D</u> igita	Clear All	
	OK Cancel Help	

Configure the IP address and the assembly Object (Class 04h)

🕌 RSLogix 5000 - PNOZmulti in PNOZmulit_ETHIP.ACD [1	756-L55]*	_ 8 ×
<u>File Edit View Search Logic Communications Tools Wi</u>	ndow <u>H</u> elp	
	- <u>Kaka</u> Te <u>V</u> QQ	
Offline 🛛 🗸 🗖 RUN 👘 🙀 Pa	ath: AB_ETHIP-1\172.16.215.185\Backplane\0* 🚽 器	
Forces		
No Edits		
	Favorites & Bit & Timer/Counter & Input/Output & Compare	
		_
Controller PNOZmulti Controller Tags Controller Tags Controller Fault Handler Controller Fa	General Connection Module Info Type: ETHERNET-MODULE 1.1)	
Motion Groups Ungrouped Axes Trends Trends Data Types Module-Defined Module-Def	Vendor: Allen-Bradley Parent: ETH_ET Name: PN0Zmulti_Feldbus Description: Instance: Size: Input: Instance: Size: Input: 100 20 Image: Comm_Eormat: Data - SINT Configuration: Image: Address / Host Name Image: Image: Image: Image: </td <td></td>	
Description Module Fault	Status: Offline OK Cancel Apply Help	

The byte size is limited to 20 bytes.

S	сор	e: PN0Zmulti(controller 💌 Show: Show All	Sort: Type	-	
	Ρ	Tag Name	Alias For	Base Tag	Type ⊽
					AB:ETHERNET
		-PN0Zmulti_Feldbus:I			AB:ETHERNET
		-PNOZmulti_Feldbus:I.Data			SINT[20]
		-PNOZmulti_Feldbus:I.Data[0]			SINT
		-PNOZmulti_Feldbus:I.Data[1]			SINT
		-PNOZmulti_Feldbus:I.Data[2]			SINT
					SINT
					SINT
		-PNOZmulti_Feldbus:I.Data[5]			SINT
					SINT
					SINT
		-PNOZmulti_Feldbus:I.Data[8]			SINT
					SINT
					SINT
		-PNOZmulti_Feldbus:I.Data[11]			SINT
					SINT
		-PNOZmulti_Feldbus:I.Data[13]			SINT
		-PNOZmulti_Feldbus:I.Data[14]			SINT
		-PNOZmulti_Feldbus:I.Data[15]			SINT
		-PNOZmulti_Feldbus:I.Data[16]			SINT
		-PNOZmulti_Feldbus:I.Data[17]			SINT
					SINT
					SINT
		-PN0Zmulti_Feldbus:0			AB:ETHERNET
					SINT[20]
ste					

At the controller tags, you will find the data of the PNOZmulti Ethernet module



9.2 Sample IO scanner communication with Schneider Quantum PLC

Sample is for the programming software Concept 2.6.

The conditions for the communication is a configured Ethernet module at the Schneider PLC program. Open the Ethernet I/O Scanner and create a new connection.

Configure the IP address of the PNOZmc8p in the field Slave IP address. The next step is to configure the Master Read and Master Write address.

The length is limited to 10 Register (1 Register = 2 bytes)

Notice: the slave read address must be 400001 and the slave write address must be 401025 fix.

📲 Ethernet / E/A-Scanner	
Ethernet-Konfiguration:	Internet Adresse: 172.16.205.24 Starten Subnet-Maske: 255.255.0.0 Gateway: 0.0.0 Bahmentyp: ETHERNET II
E/A-Sganner-Konfiguration: Master-Baugr. (Steckpl.): Steckpl.3: 140-N0E-771-11 FktFähigkeits-Block (1×/3×): 300001 - 300008 ✓ Diagnose-Block (3×/4×): 300009 - 300136	Ausschneiden Kopieren Einfügen Import
Slave IP- Adresse Unit ID Störungs- viederh Lese-Ref. Timeout Rate Master	Lese-Ref. Lese- Slave Länge Letzter Wert Schreib-Ref. Schreib-Ref. Schreib-Ref. Slave Länge Diag-Code B
1 172.16.216.77 • 0 0 0 400001 2 •	I 400001 10 Letzten hall 401024 401025 10 V
DK	Abbrechen <u>H</u> ilfe

With the configuration of the I/O Scanner no application program for the communication is necessary.

Attention: there is byte swapping at the Ethernet.

10 Profinet (mc9p)

10.1 Sample IO communication with Siemens S7 V5.3 SP3

XML-File: Import from the XML-file into the Hardware Configurator (Options -> Install GSD...).

nstall GSD Files				2
Install GSD Files:	from the direct	ory	_	
c:\Dokumente und Einstellung	en\hohlbauch\Eigene Date	ien\Techniscl	ne Unterlagen\PNOZ_	Browse
File GSDML-V1.0-Hms-ABSPBT-2	Release	Version 5 V1.0	Languages English, German	
			English, alonnan	
Install Sh	ow Log Select (sii 1		
<u>113/dii</u> <u></u> 11				
Close				Help

Configuration of the Inputs/Outputs:



ļ							
	() (1) ETH					
	Slot	Module	Order Number	I Address	Q address	Diagnostic address	Cor
	0	📑 ETH	ABS-FRT			8188**	
	1	Ein-/Ausgänge 032 bytes		256287	256287		



Input / Outputs: For the PNOZ mc9p you must configure 32 Bytes Input/Outputs, but only the first 20 Bytes are used.



Update time: We suggest a value from 8 ms for larger networks.

	PRO	DFINET IO-System	Properties			×
	G	ieneral Update Time	:			
		Communication Comp	oonent (PROFINET IO)	100.0	• %	
		 I/O System-Wide I/O Device-Speci 	Update Time fic Update Time	2		
		Device Number	Device name	Туре	Update Time ((ms)
•		1	TEST	Anybus	8	
SIMATIC 300 Slot Designation UR Ethen PROFINET-IO-Sy						



IP-Address: The IP-Address could be set from the Siemens PLC or from a DHCP-Server. If you want set the IP-Address over the Siemens PLC then you must activate "Assign OP address via IO Controller".

Device Name: The "Device Name" in the S7 Hardware Configuration must be the same how the "Equipment Identifier" into the PNOZmulti Configurator.

eneral		
ihort Description:	Anybus	
	Anybus-S PROFINET IO module	<u></u>
		<u>_</u>
)rder No.:	ABS-PRT	
evice Name	ETH	
SD File:	GSDML-V1.0-Hms-ABSPRT-20060209.xml	
	Change release number	
Node / PN 10 syste	m	
Device Number:	1 PROFINET-IO-System (1	100)
IP Address:	172.16.205.20 Ethernet	
🔽 Assign IP addre	ess via IO Controller	
Comment:		
		<u> </u>

OPCH		Module Name			Version: Equipme	ent identifier:
	1000 000 0000 0000 000 000 000 000 000	Base Unit PNOZ m1	lp		▼ v5.0 ▼	
1.1	mtp			Location	Description:	
1	S Recent Records and					
ofs	elected modules:					
	Module Name		Version	Equipment Identifier	Location Descr	Add
)	Fieldbus Module Base Unit PNOZ m1p		∨1.0 ∨5.0	ETH m1p		Remove
						Move Up
						Move Down
						Remove All
					Þ	Show
Tr	ansfer virtual inputs and o	utputs via serial inter	face			
quipr	ment identifier:		Edit			



Set the PNOZ mc9p "Equipment Identifier" with the S7 software: If you want set the "Equipment Identifier" then you must write a \$ before the name. Now it's possible that you assign a device name for the mc9p over the S7 software (the PC with the S7 software must be connected over Ethernet with the Siemens PLC). If you don't have a \$ before the device name then the PNOZmulti always lost the "Equipment Identifier" after a reboot.

Disadvantage: If an exchange from the PNOZmulti basic module should be necessary then you must assign the device name over the S7 software again.

L	List of selected modules:					
		Module Name	Version	Equipment Identifier		
	0	Fieldbus Module	v1.0	\$TEST		
	1	Base Unit PNOZ m1p	v5.0	m1p		

🔩 HW Config - [SIMATIC	300(1) (Configuration) ProfiNet]		
🕅 Station Edit Insert	PLC View Options Window Help		
	Download Upload	Ctrl+L	
(0) UR	Download Module Identification Upload Module Identification to PG		
X1 MPI/DP	Faulty Modules		Extremest(2), DEOEINET IO, Custorer (100)
<u>X2</u> <u>3</u> <u>4</u> r	Module Information Operating Mode Clear/Reset Set Time of Day Monitor/Modify	Ctrl+D Ctrl+I	
	Update Firmware		DP-NORM
	Save Device Name to Memory Card		
	Ethernet	Þ	Edit Ethernet Node
	PROFIBUS	•	Verify Device Name
	Save Service Data		Assign Device Name

Assign device name	×
Device name: ETH Device type: Anybus	
Available devices:	
IP address MAC address Device type Device name	Assign name
172.16.217.4 UU-3U-11-U2-48-4F Arybus ETH	Node flashing test Duration (seconds): 3 Flashing on Flashing off
Show only devices of the same type Display only devices without name: Update Export	\$
Close	Help

With the MAC-Address you can check if you have configured the right Device names.