

'How-To-Do'

EtherCAT Communication with CPU 300S

With the SIMATIC Manager from SIEMENS AG

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1 General

1.1 Information

This 'How-To-Do' describes how you can configure the VIPA CPU 315-4EC-12 as EtherCAT master system in SIMATIC Manager from Siemens. The EtherCAT slave (SILO 053-1EC00), which has to be parameterized for the EtherCAT system, will be configured and parameterized in *SPEED7 EtherCAT Manager*.

You can find a detailed description of the CPU 315-4EC-12 and the SILO IM 053-1EC00 in the manuals under the links:

CPU 315-4EC-12:

http://www.vipa.com/en/service-support/manuals/control-systems/300s/ SILO IM 053-1EC00: _http://www.vipa.com/en/service-support/manuals/io-systems/slio/

1.2 Reference

In this 'How-To-Do' principal procedures are described by means of examples. You can download the required GSD file as well as the zip archive, which contains **SPEED7 EtherCAT Manager**, from the website <u>http://www.vipa.com/de/service-support/downloads/.</u>

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- 2 Step by step Hardware Configuration
- 2.1 Hardware configuration of EtherCAT master systems (SIMATIC Manager / SIEMENS AG)
 - 1. Start SIMATIC Manager from SIEMENS AG and open a new projekt.



Figure 1: structure of SIMATIC Manager from SIEMENS AG

2. Insert a ,SIMATIC 300-Station'.



Figure 2: Configuration of a SIMATIC 300-Station

3. Select the new integrated *,SIMATIC 300-Station*⁺ and open **'HW Config'** by double clicking on *,Hardware*⁺.



Figure 4: structure of the 'HW Config' in the SIMATIC Manager from SIEMENS AG

4. Navigate in the 'HW Catalog' to the folder *,SIMATIC 300 -> Rack-300*' and integrate the object *,Rail*'via *,Drag&Drop*' into the station window.



Figure 5: Integration of a profile rail into the station window

5. For configuration of the VIPA CPU 315-4EC12 select the folder ,SIMATIC 300 -> CPU-300 -> CPU 315-2PN/DP -> 6ES7 315-2EH14-0AB0'. Select the CPU 315-2 PN/DP (6ES7 315-2EH14-0AB0 V3.2) and insert it into Slot 2 of the 300 rack via ,Drag&Drop'.



Figure 6: Integration of the CPU 315-2 PN/DP into the 300 rack

6. Now a dialogue window opens, in which you can configure the Ethernet interface of the CPU. Fill in the requested IP address and subnet mask of your CPU (EtherCAT system) into the dedicated fields. For creation of a new Ethernet line, in this case for the EtherCAT master system, click on <New>.

Figure 7: Parameterization the Ethernet (EtherCAT) interface of the CPU



7. In the properties window you can name your Ethernet subnet. In this 'How-To-Do' example, the subnet is named "**EtherCAT System".** Close both windows with <OK>.

1	
Name:	EtherCAT System
S7 subnet ID:	00B3 - 0004
Project path:	
Storage location of the project:	E:\04_Eigene_Dokumente\Projekte\01_How-To-Do\Erstellt\HTD_3005
Author:	
Date created:	12/11/2013 10:27:47 AM
	12/11/2013 10:27:47 AM
Last modified:	
Last modified: Comment:	
Last modified: Comment:	

Figure 8: Assigning names for the subnet of the CPU (EtherCAT)

8. Now you should see the CPU 315-2 PN/DP with the appended Ethernet rail in the station window.

	*
	Ent
2750 UD	Etolle: Standard
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1817 C Spein (10) ■ ■ M Protector C ■ ■ M Protector C ■ ■ Marcine C ■ Marcine C ■ ■ Marcine C ■ Ma
	
EtherCAT System: PRIOFINET40 System (100)	
Decko Nuelser 👔 IF addre Decko Name Ddar nuelser Prinsser Dagsonfo address Inisia Inter. She	end Connect 001377 0 CONTRACTOR 0 CONTRACTOR

Figure 9: CPU 315-2 PN/DP with EtherCAT system



9. Insert all modules, which are right from the CPU in the standard bus, from the hardware catalog from slot 4 via *,Drag&Drop*⁴. In the 'How-To-Do' example, the following modules are used:

2x **16DI/DO 16x24V/0,5A** (**6ES7 323-1BL00-0AA0**) (1x VIPA 323-1BH00, 1x VIPA 322-1BH60)

(Slot 4, Slot 5)





Figure 10: Parameterization of the I/O modules of the 300-system



10. For the configuration of the Ethernet-PG/OP-channel of the **VIPA CPU 315-4EC12** select the folder ,*SIMATIC 300 -> CP-300 -> Industrial Ethernet -> CP 343-1 -> 6GK7 343-1EX11-0XE0'. Select CP343-1 (6GK7 343-1EX11-0XE0 V2.0)* and insert it into slot 6 of the 300 rack via ,*Drag&Drop'*. This CP is always configured as the first module (after the really plugged modules) in the standard bus.



11. Now a dialogue windows opens, in which you can configure the Ethernet interface of the CP. Fill in the requested IP address and subnet mask of your CP (PG/OP channel)) into the dedicated fields. For the creation of a new Ethernet line, in this case for the PG/OP channel of the VIPA CPU, click on <New>.

Set MAC address:	ress / use ISO protocol	If a subnet is selected, the next available addresses are suggested.
IP protocol is IP address: Subnet mask:	being used 192.168.1.1 255.255.255.0	Gateway © Do not use router © Use router
Subnet:	be	Address:
EtherCAT System	1	Properties

Figure 12: Parameterizing the PG/OG interface of the CPU via the CP 343-1

 IMPORTANT!!!
 Apply another subnet for the PG/OP interface, if you use the CPU and not your PC as EtherCAT master!

 Here in the 'How-To-Do' example, the IP address 192.168.1.1 is applied.



12. In the properties window you can name your Ethernet subnet. In this 'How-To-Do' example, the subnet is named "**PG/OG Interface**". Close both windows with <OK>.

Name:	PG/OP Interface
S7 subnet ID:	00B3 - 0007
Project path:	\PG/OP Interface
Storage location of the project:	E:\04_Eigene_Dokumente\Projekte\01_How-To-Do\Erstellt\HTD_300S
Author:	
Date created:	12/11/2013 10:36:24 AM
	12/11/2013 10:36:24 AM
Last modified:	
Last modified: Comment:	
Last modified: Comment:	

Figure 13: Naming the subnet of the CP (PG/OG interface)

13. After successfully creating the Ethernet line you should see a CP 343-1 in the Slot 6 of the CPU 315-2 PN/DP.

	window	mop							
) 🖻 💼 🏥 🖪 🖻	4 N?							
							-		
								Ent	<u> </u>
122 2123 2123 2023	000 100 100 100 100 100 100 100 100	1001						Profile:	Standard
1	CFU-31524FM/OP ##CP 7740 Awr 1 Awr 2 CFUEDO1626/054 CFUEDO1626/054 CFUEDO1626/054 CFUEDO1626/054 CFUEDO1626/054 CFUEDO1626/054 CFUEDO1626/054 CFUEDO1626/054 CFUEDO1626/054 CFUEDO1626/054 CFUEDO1626/054 CFUEDO1626/054 CFUEDO1626/054 CFUEDO1626/054 CFUEDO1626/054 CFUEDO1626/054 CFUEDO1626/054 CFUEDO1626/054 CFUEDO1626/054 CFUEDO1626/054 CFUEDO1626/054 CFUEDO1626/054 CFUEDO1626/054 CFUEDO1626/054 CFUEDO1626/054 CFUEDO1626/054 CFUEDO1626/054 CFUEDO1626/054 CFUEDO1626/054 CFUEDO1626/054 CFUEDO1626/054 CFUEDO1626/054 CFUEDO1626/054 CFUEDO1626/054 CFUEDO1626/054 CFUEDO1626/054 CFUEDO1626/054 CFUEDO1626/054 CFUEDO1626/054 CFUEDO1626/054 CFUEDO1626/054 CFUEDO1626/054 CFUEDO1626/054 CFUEDO1626/054 CFUEDO1626/054 CFUEDO1626/054 CFUEDO1626/054 CFUEDO1626/054 CFUEDO1626/054 CFUEDO1626/054 CFUEDO1626/054 CFUEDO1626/054 CFUEDO1626/054 CFUEDO1626/054 CFUEDO1626/054 CFUEDO1626/054 CFUEDO1626/054 CFUEDO1626/054 CFUEDO1626/054 CFUEDO1626/054 CFUEDO1626/054 CFUEDO1626/054 CFUEDO1626/054 CFUEDO1626/054 CFUEDO1626/054 CFUEDO1626/054 CFUEDO1626/054 CFUEDO1626/054 CFUEDO1626/054 CFUEDO1626/054 CFUEDO1626/054 CFUEDO1626/054 CFUEDO1626/054 CFUEDO1626/054 CFUEDO1626/054 CFUEDO1626/054 CFUEDO1626/054 CFUEDO1626/054 CFUEDO1626/054 CFUEDO1626/054 CFUEDO1626/054 CFUEDO1626/054 CFUEDO1626/054 CFUEDO1626/054 CFUEDO1626/054 CFUEDO1626/054 CFUEDO1626/054 CFUEDO1626/054 CFUEDO1626/054 CFUEDO1626/054 CFUEDO1626/054 CFUEDO1626/054 CFUEDO1626/054 CFUEDO1626/054 CFUEDO1626 CFUEDO1626 CFUEDO1626 CFUEDO1626 CFUEDO1626 CFUEDO1626 CFUEDO1626 CFUEDO1626 CFUEDO1626 CFUEDO1626 CFUEDO1626 CFUEDO1626 CFUEDO1626 CFUEDO1626 CFUEDO1626 CFUEDO1626 CFUEDO1626 CFUEDO1626 CFUEDO1626 CFUEDO1626 CFUEDO1626 CFUEDO1626 CFUEDO1626 CFUEDO1626 CFUEDO1626 CFUEDO1626 CFUEDO1626 CFUEDO1626 CFUEDO1626 CFUEDO1626 CFUEDO1626 CFUEDO1626 CFUEDO1626 CFUEDO1626 CFUEDO1626 CFUEDO1626 CFUEDO1626 CFUEDO1626 CFUEDO1626 CFUEDO1626 CFUEDO1626 CFUEDO16				Bhe/CAT Sy	aten PIOIIN(TI-Ogeten 103		B B B B B B B B B B B B B B B B B B B	NOFIBUS DP NOFIBUS PA ROFNET IO MATIC 200 C 73 C
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(1) UR Module CPU 135 2PU/DP <i>APEQP</i> <i>APEQP</i> <i>APEQP</i>	0 Older number 46 57 315 2014 6 0480	Fimsae V3.2	HPI address 2 2	1 address 2,84/* 2,865* 2,365*	Q address	Conner			B) G67,734 (b2)+60 B) G67,734 (b2)+60 B) G67,234 (b2)+60 B) G67,234 (b2)+60 B) G72,324 (b2)+60 G74,300 G44500 G44500 G44500 S-M00 S4400 S-M00 S4400 S-M10,40 (b1)+60 S4400 MAILC 401 (b1)+60 S4400 MAILC 402 (b1)+70 S4400 (b1)+70
IDLUR Module Module	= 0.0er nueber 1657 315 2011 6 6480	Finsae	HPI address 2 2	address 204/* 2045* 2045* 2045*	Q address	Convert	,	6 8 8 8 0 81 1 8 8 8 8 8 8 0 8 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	EGR7 34 162140 EGR7 34 16214 EGR7 34 16214 EGR7 34 1621 EGR7 34 162 EGR7 34
[0] UR Module CPU 315 2 PM/DP Arth CP Arth CP Arth CP Arth CP Description	0 Uder number 10 Uder number 10 ST 21 ST 21 H 4 6ABB 10 ST 22 H 10 COMMON	V12	HPI address 2 2	1 address 204/* 2045* 2045* 2045* 2045* 2046*	Q addess	Conner		8888 0811 8888 880 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	B (0.733) C2-00 B (0.733) C2-00 B (0.733) C2-00 B (0.733) C2-00 B (0.753) C2-00 C
IB UB Modular Modular AVE2 DP AVE2 DP AVE2 DP AVE7 AVE7 AVE7 AVE7 DISCOSQUE/05A DISCOSQUE/05A DISCOSQUE/05A	Oder nueber K457 216 0.0040 K57 215 18.00400 K57 212 18.00400	Fittware V3.2	HPI address 2 2	1 address 284/* 2845* 2845* 2845* 2845* 2845* 0.1	Q address 01 45	Conver	,	1000 1000 1000 1000 1000 1000 1000 100	B Gray 23 (2010) Gray 23 (2010) Gray 23 (2010) Gray 23 (2010) Gray 23 (100) G

Figure 14: CPU 315-2 PN/DP with EtherCAT system and PG/OG interface (CP343-1)

	10000	
2	CPU 315-2 PN/DP	
X7	MPI/DP	
X2	PN-IO	
X2 P1 R	Port 1	Ξ
X2 P2 R	Port 2	
3		-
5	DI16/DO16x24V/0.5A	
X2 P2 R 3 1	DI16/D016x24V/0.5A	



14. For the following steps the GSD file *EtherCAT.gsdml* must be installed in the hardware catalog. You can download a zip file containing the GSDML under the following link:

GSDML for the EtherCAT Master:

http://www.vipa.com/de/service-support/downloads/

Navigate in the 'HW Catalog' to the folder , PROFINET IO -> Additional Field Devices -> I/O -> VIPA EtherCAT System' and insert the object , EtherCAT Network' into the before added PROFINET line (EtherCAT line) via , Drag&Drop'.

High HH Config-1(199A 313-HEC12(Configuration) EtherGAT_an) → Mig Station Life Insert PLC View Options Window Help	- 0 -	
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Figure 15: Inserting the EtherCAT master system

16. Navigate in the 'HW Catalog' to the folder ,PROFINET IO -> Additional field Devices -> I/O -> VIPA EtherCAT System -> EtherCAT Network' and select your requested I/O area (for the communication with your EtherCAT slaves) and insert them via ,Drag&Drop' into the slots of the already parameterized EtherCAT system (beginning with slot 1). In this 'How-To-Do' example, the following modules are applied:

1x	In 128 byte	(Slot 1)
1x	Out 128 byte	(Slot 2)

[max. In 1024 byte possible] [max. Out 1024 byte possible]

Intro Config - (1994) 32-61/23 (Configuration) - 1996-07. and Intro Config - (1994) 32-61/23 (Configuration) - 1996-07. and Intro Config - (1994) 32-61/23 (Configuration) - 1996-07. and Intro Config - (1994) 32-61/23 (Config - 1996) - 1996-07. and Intro Config - (1994) 32-61/23 (Config - 1996) - 1996-07. and Intro Config - (1994) 32-61/23 (Config - 1996) - 1996-07. and Intro Config - (1994) 32-61/23 (Config - 1996) - 1996-07. and Intro Config - (1994) 32-61/23 (Config - 1996) - 1996-07. and Intro Config - (1994) 32-61/23 (Config - 1996) - 1996-07. and Intro Config - (1994) 32-61/23 (Config - 1996) - 1996-07. and Intro Config - (1994) 32-61/23 (Config - 1996) - 1996-07. and Intro Config - (1994) 32-61/23 (Config - 1996) - 1996-07. and Intro Config - (1994) 32-61/23 (Config - 1996) - 1996-07. and Intro Config - (1994) 32-61/23 (Config - 1996) - 1996-07. and Intro Config - (1994) 32-61/23 (Config - 1996) - 1996-07. and Intro Config - (1994) 32-61/23 (Config - 1996) - 1996-07. and Intro Config - (1994) 32-61/23 (Config - 1996) - 1996-07. and Intro Config - (1994) 32-61/23 (Config - 1996) - 1996-07. and Intro Config - (1994) 32-61/23 (Config - 1996) - 1996-07. and Intro Config - (1994) 32-61/23 (Config - 1996) - 1996-07. and Intro Config - (1994) 32-61/23 (Config - 1996) - 1996-07. and Intro Config - (1994) 32-61/23 (Config - 1996) - 1996-07. and Intro Config - (1996) 32-61/23 (Config - 1996) -	BucCU Speen FROMUTO Speen (100)			
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(1) VIPA31×4EC12 Slot ■ Module 0 ■ VIP3137×4EC12 1 ■ In 128 byte 2 ■ Out 128 byte 3	Order number I address 31x4EC12 304431	Q address		pag

Januar 14

[©] by VIPA GmbH, Ohmstraße 4, 91074 Herzogenaurach, Deutschland Angaben ohne Gewähr, Änderungen und Irrtümer vorbehalten.



- 17. When you have finished, move to the menu ,*Station > save and compile*, or click on the symbol in the menu bar for compilation and saving of the configuration. This is necessary to make the parameterized hardware configuration available for the *SPEED7 EtherCAT Manager*.
- 18. Connect the PLC and your PC via Ethernet.



- 19. With the menu item <*PLC* -> *Download*> or with the symbol would for the etherCAT master system) into your PLC.
- 20. For the following steps the *SPEED7 EtherCAT Manager* must be installed, which can be downloaded under the following link:

EtherCAT Manager:

http://www.vipa.com/uploads/tx_sbdownloader/EtherCATManager_v1.0.85.459.zip

Reference! If there are problems with the installation of the SPEED7 EtherCAT Manager (Windows XP), you must at first install the following Windows Hotfix: <u>http://www.microsoft.com/en-us/download/details.aspx?id=8483</u>

21. Now open the **SPEED7 EtherCAT** Manager by right mouse click on the **VIPA31x-4EC12** station with the menu item <Start Device Tool -> SPEED7 EtherCAT Manager>



Figure 17: Opening of the SPEED7 EtherCAT Manager out of the HW Konfig

Product Support Information FAQs Find Manual	Ctrl+F2 Ctrl+F7 Ctrl+F6	=	
Start Device Tool	•	SPEED7 EtherCAT Manager	- U



22. Please now follow the description from chapter 2.2 Configuration of the EtherCAT slave



2.2 Configuration of the EtherCAT Slave

(SPEED7 EtherCAT Manager / VIPA GmbH)

 If you have opened the SPEED7 EtherCAT Manager via the hardware configuration of the SIMATIC Manager from Siemens AG, you should see your configured CPU 315-2 PN/DP in the 'Project Explorer' window.

SPEED7 EtherCAT Manager (CBFEF121-8533-4240-889A-8 File View Network Settings Help	9F4DFDFE824)		
Configuration Mode			
Project Explorer	Device Editor		
8 CPU 315-2 PN/DP	Master Process Image I/O Add	hes Overview	
	General		
	a la	C00015.3 00000	
	Cycle Time (us)	32000	
	Slaves connected to local syste		
	Network Adapter	Programmienschnittstelle (Intel(R) Gigabit CT Desktop /	ldapter)
Project-Explorer			- feed
	Succession		
	Master-Instance	Desites Editory	Select
		Device-Editor	
Sherit linfon 🗠 🕬 🖉 🖉 🖉 🖉 🖉 🖓 🕈	Messages of the terms of the terms of		
Information			
Name CPU 315-2 PN/DP			
Description CPU 315-46Ct2		Outout	
Vender I VIRA GripH		Antbur	
mormation			
			Statute & B. Martin CONITS STANDARD

Figure 18: Structure of the SPEED7 EtherCAT Manager

2. First, decide in the device selector whether you want to use your PC or a CPU as EtherCAT master.

a. PC as EtherCAT Master

Select your network adapter in the area ,*Slaves connected to local system*' and confirm your configuration with <Select>.

Slaves connected to local	system]
Network Adapter	Programmierschnittstelle (Intel(R) Gigabit CT Desktop Adapter)		A
		Select	
Figure 19: Select	PC as EtherCAT master		

b. CPU as EtherCAT Master (Used in the 'How-To-Do' example)

Select the IP address of your PG/OP interface applied in chapter 2.1 item 6 (in the 'How-To-Do' example: 192.168.1.1) and enter it into the dedicated field. Confirm your connection configuration with <Select>.

Slaves connected to remo	ote system		
IP Address	192.168.1.1		
Port	6000		
Master-Instance	0	Select	2
Figure 20: Select	t CPU as EtherCAT Master		L



- 3. Now you have two possibilities to assign the EtherCAT slave to the CPU 315-2 PN/DP:
 - a. Search in the EtherCAT network (continue with item 4)
 - b. Append the EtherCAT slave to the master system (continue with item 6)
- 4. Search for "Slaves" in the EtherCAT network (Connection to the EtherCAT network exists!). Here click with the right mouse button on the CPU 315-2 PN/DP in the Project Explorer and select <Scan EtherCAT Network>.



3......

- 5. Continue the description with **<u>item 11</u>**
- Configure your EtherCAT slave by hand. To do this click with the right mouse button on the CPU 315-2 PN/DP and select <Append Slave >.

Project Explorer	De
U CPU 315-2	Scan EtherCAT Network
A 😽	Append Slave
- U - O.4	Insert Slave
0	Append Slave (from Clipboard)
led.	Export ENI File
21	Reload ESI data Change Master Unit

Figure 22: Append EtherCAT Slave to the EtherCAT Master System



7. Now a window opens, in which you can select your EtherCAT slave. You have the possibility to configure several (identical) slaves at the same time. You can switch it in the input field "Number of Slaves". Confirm your selection with <OK>. In the 'How-To-Do' example the following EtherCAT slave is applied:

Append EtherCAT Slave to	o 'CPU 315-2 PN/DP'		- D - X -
Filter			
Search			
Vendors	[ALL VENDORS]		
Show Hidden Slaves			
Connection			
Connect at	PORT B Ethernet		
Clause			
Select a specific slave from	n the list and adjust the n	number of slaves.	
H HIWIN MIKROSY	(STEM		
VIPA VIPA GmbH			
Buskopple	er		
VIPA 053-	1EC00	VIPA 053-1EC00 EtherCAT Buskoppler (MDP)	0x00000013 (19)
Yaskawa Electric	Corporation		
		0	
Number of Slaves	1 🔹	ок	Cancel
	11.4 - 202		

1x VIPA 053-1EC00 EtherCAT Fieldbus coupler (MDP)

Figure 23: Selection of the EtherCAT Slave

8. To configure I/O modules to the SLIO head module just appended, click with the right mouse button on one of the SLIO head modules and select *Append Slave*.



Insert ModuleRemove Module

Figure 24: Appending the first SLIO module

- 9. Now a window opens, in which you can select individual SLIO I/O modules. In this 'How-To-Do' example the following SLIO modules are applied:
 - 1x VIPA 022-1BF00, DO 8xDC 24V 0,5A
 - 1x VIPA 021-1BD00, DI 4xDC 24V
 - 8x VIPA 022-1BF00, DO 8xDC 24V 0,5A

4 Append Module to 'Slave	_001 (0001) [VIPA 053-1EC00]'		
Filter			
Search			
Vendors	UIPA VIPA GmbH		
Connection			
Connect at	Internal Bus / Backplane		
Modules			
Select Module for Slot Ass	ignment		
VIPA VIPA GmbH			
î SM 021 -	Digital Input Modules		
► ↓ SM 022 -	Digital Output Modules		
T SM 031 -	Analog Input Modules		
SM 032	Analog Output Modules		
SM 040 -	Communication Modules		
SM 050 -	Counter/ SSI Modules		
		OK	Cancel

Figure 25: Selection of the SLIO modules for the respective EtherCAT slave

- 10. Go back to step 8 and insert the remaining modules to the SLIO system.
- 11. When you have finished, first save your EtherCAT slave configuration *,file -> save* ' and afterwards terminate the SPEED7 EtherCAT Manager *,file-> Exit*'.

SPEED7 EtherCAT Manager (CBFEF121-B533-424	40-889A-89F4DFDFE824)		
File View Network Settings Help			
Diagnosis	s Mode		
100 00 ESI MANA GERI IKA IKA IKA	Davisa Editor		E
	General Modules PDO N	Tapping Process Image 1/O Address Overview	
 Slave_001 (0001) [VIPA 053-1EC00] 			
4 001 : Terminals [022-18F00]	Address		
1 002 : Terminals [022-18F00]	Station Address	1	
1 003 : Terminals [022-18F00]	Information		
4 004 : Terminals [022-18F00]	Name	Slave_001	
005 : Terminals [022-18F00]	Description	VIPA 053-1EC00 EtherCAT Fieldbus coupler (MDP)	
1 006 : Terminals [022-18F00]	Vendor	VIPA GmbH (0xAFFE / 45054)	
1 008 - Terminals (022-18F00)	Product Code	0x531EC00 (87157760)	
• 0001 TERMINE [012 10100]	Revision Number	0x13 (19)	
	ESI File	C-\Users\Public\Documents\VIPA GmbH\SPEED7 EtherCAT Manager\EtherCAT\EsiFiles\Vipa 053-1EC00 MDP.xml	
	Topology		
	Port A, MII	CPU 315-2 PN/DP	
	Port D	Not Available	
	Port B, MII	Not Connected	
Classic View Flat View	Port C	Not Available	
Short Info			- 0
Information	Severity Time Mess	age	
Name Slave_001			1 Save Ctrl+S
Description VIPA 053-1EC00 EtherCAT Fit	eldbus		
Vendor VIPA GmbH (0xAFFE / 45054)	0		EST Manager
			ESI Wanager
Natural Change 1		Control & B. Martin CONTROL	Exit Alt+
Networks: 1 Slaves: 1		Status: • • Mode: CONHG	
Figure 26: Save the l	EtherCAT slave	configuration	U



12. Now confirm saving and generating of the **SPEED7 EtherCAT Manager** data. Thereby system data blocks (SDB 4000 – SDB4004), in which the EtherCAT slave configuration data is logged, are created in **SIMATIC Manager** from Siemens AG.

Save Project		X
Project was changed. Do y	you want to save	the changes?
	Nein	Abbrechen

Figure 27: saving and compiling of the configured data

13. Please follow now the description from chapter <u>2.3 Transfer configuration of the EtherCAT Slave</u> into the VIPA CPU 300S



2.3 Transfer Configuration of the EtherCAT Slave into the VIPA CPU 300S (SIMATIC Manager / SIEMENS AG)

- 1. Go back to SIMATIC Manager from Siemens AG
- 2. If you open the system data in the folder ,System Data Blocks' of your configuration, you can see the SDBs 4000 until 4004, generated by the **SPEED7 EtherCAT Manager**.



Figure 28: System Data blocks with the generated SDBs (4000 until 4004)

⊡- 🗃 EtherCAI_en	l Obje	ct name	bolic name		Created in Iar	iguage Si	ze in the wor
E WIPA 315-4EC12	🚔 Sj	ystem data	(2)				
E- CPU 315-2 PN/DP	U-U	81	U				
⊡ s7 Program[1]	6			_	_	_	
A Sources	S	ystem Data Blo	ocks				
CP 343-1		List of the Syste	m Data Blocks:				
		SDB number	Date created	Size	Created by	Comment	A
		SDB 2000	12/11/2013 11:21:24 AM	504	STEP 7	Type: 2000	
		SDB 4000	12/11/2013 10:20:26 AM	182	SPEED7	Type: 7000	
		SDB 4001	12/11/2013 10:20:26 AM	204	SPEED7	Type: 7001	
		SDB 4002	12/11/2013 10:20:26 AM	922	SPEED7	Type: 7002	3
3		SDB 4003 SDB 4004	12/11/2013 10:20:26 AM	4198	SPEED7	Type: 7003 Type: 7004	-
A		Checksum: D0	1C 07 06				
	X	Close				н	elp

3. Mark the folder ,System Data' and either click the menu *<target system- > load>* or click on the symbol in the menu bar, to load the system data into the CPU.

Reference: For modifications of the EtherCAT-System, which have been executed with the *SPEED7 EtherCAT Manager*, the system data *ALWAYS* have to be reloaded into the CPU!



3 Revision History

3.1 Änderungen:

DATUM	ÄNDERUNGEN	BEARBEITER
27.01.2014		M. Dörnhöfer
08.01.2014	Übersetzungsüberprüfung durchgeführt	M. Dörnhöfer
11.12.2013	Erstellung Dokument	M. Dörnhöfer