

How-To-Do

# **OPC-Server with MPI and ISO over TCP/IP Communication**

## Content

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### 1 General

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#### 1.1 Information

This 'How-To-Do' describes the procedure by means of an example, how you can adjust the OPC server for the MPI communication and the ISO over TCP/IP communication.

You can find a detailed description of the OPC server in the manual under the link <u>http://www.vipa.com/uploads/tx\_sbdownloader/HB45e\_opc\_server\_12-46.pdf</u>.

#### 1.2 Reference

In this 'How-To-Do' the principal procedure is described by means of examples.

Liability for material defects and defects of this documentation, especially for the correctness, accuracy, freedom and protection or third party rights, completeness and / or usability - except for willful misconduct or bad faith - is excluded.



### 2 Procedure for the Setup of the OPC Server

- 1. Connect your PC to the PLC via the adapter cable RS232-MPI.
- 2. All required programs are to be found in the start menu under: *Start* → *Programs* → *VIPA GmbH* → *OPC Server*



3. Start the program *,PLC-Tool*<sup>+</sup> to check the connection to the PLC. Select *,CPU*<sup>+</sup> → *,New connection* ... <sup>+</sup> in the menu. Create a new adapter by" Connection type: MPI", your COM port, baud rate 38400, MPI address of your CPU. After click on *,Finish*<sup>+</sup> the tool will be connected to the PLC. As precondition for further steps the connection buildup must work.

	Create new adapter	
FILE COU       File     CPU       Options     ?       New connection       PLC       Connection diagnosis .       P       Copy RAM -> ROM       S       Download WLD file       M       FRCE	Connection type MP Name of adapter Adapter1 Description Port CDM1 Baudrate 39400 Busbaudrate 197300 Own MPI-number 31 MPI-number of PLC 2	Adapter1
RUN RUN	Max. MPI slave No 31	
M-RES STOP	Create link 🗔	M-RES STOP
MiRES	FinishCancel	M-RES

- 4. Finish again the PLC tool and start the OPC editor.
- 5. Open the project "*VOPCSRV.ini*" via *,File*' => *,Open project*'. Delete the contained networks and integrate a MPI network via *,Edit*' => *,Add network* '.

	1	1110
		VIE
CPC-Project	Property	Value
	Filename	V0PCSRV.ini
	Logfile size (KB)	10000
	Use case sensitive tags	0
	Used separator	1
Create n Name	Save tags in uppercase etwork MPI_Test	
Create n Name Type	Save tags in uppercase etwork MPI_Test MPI_over_COMPort C Bead/Write over TCP/IP C ISO over ICP/IP	



6. Mark the MPI network by mouse and edit the MPI parameters on the right in the spreadsheet (see below). Insert a new control via *,Edit* → *,Add PLC*.

Edit Extras ?		UIPA
D OPC Preiset	Property	Value
HI Test	Network type	MPI over COMPort
	Filename	MPI_Test.ini
	Baudrate	38400
	COM-Port	1
	Highest MPI slave no.	31
	Local MPI slave no.	30
	Cyclic time (ms)	100
	Simultaneous MPI Lines	4
	Create PLC	

7. Fill in the tags and the interconnection into the spreadsheet of the controls (see below)

Property     VIPA       Property     Value       Property     Value       Planame for Tags     CPUIT4 cev       Property     Value       Planame for Tags     CPUIT4 cev       Property     Value       Property     Property       Property
Image: Second
Image: Second
Tan         Destination         Access right         Simulation/Comment           IEST_1         MV/100         FW         Itel (ST_2)

- 8. **Important:** save your project in the <u>VIPA installation directory</u>: *C:\Program Files (x86)\VIPA GmbH\OPC Server\INI\*
- 9. Restart the OPC server via , *Extras'*  $\rightarrow$  , *Reconfigure OPC Server* '.
- 10. With *,Check online value* 'via right mouse click on any tag you can read the current value directly from the PLC (see pictures below).

DPC-Editor - (C/\Program	Files (x86)\Vipa GmbH\OPC Serve	erUNE\VOPCSRV.ini)			1		
File Edit Extras ?							
				VIPA			
OPC-Project     MPLTest     OPU114	Property Filename for Tags MPT slave no. Dynamic tags Simulation	Value CPU11 2 RW OFF	4.cov		Online test		
	Tag TEST_1 TEST_2		Access right RW Check online v	Smulation Comment	Tag Destination Access right Value Quality Timestamp	CPU114/TEST_2 MW102 RW 41377 good (non-specific) 02.06.2014 09:37:34	0K



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11. Network your PC to the PLC via Ethernet. Mark "OPC-Project" and insert an ISO-over-TCP/IP network via ,Edit' → ,Add network'.



12. Mark the TCP network by the mouse and fill in your IP address into the spreadsheet on the right (see below). Insert an new control via ,*Edit*' → ,*Add PLC*'.

DPC-Editor - (C:\Program	Files (x86)\Vipa GmbH\OPC Server\INI\VOPCSRV.ini)	
File Edit Extras ?		
		VIPA
DPC-Project	Property Value Network type ISO ove	е ТСРЛР
TCP_Test	Local IP address 192.168	23.11
	Create PLC Name CPU3175NEC OK C	ancel

13. Mark the new control and fill in the IP address of the control and your tags and interconnections to the PLC into the spreadsheet of the controls (see below).

DPC-Editor - (C:\Program File	es (x86)\Vipa GmbH\OPC Ser	ver\JNI\VOPCSRV.ini)				
File Edit Extras ?						
E CPC-Project	Project Property					
E H MPI_Test	Filename for Tags		17SNEC.csv			
- EPU114	Slot no.					
Barrow	Remote IP address	192.1	68.3.15			
CPU317SNEC	Dynamic tags					
	Cyclic time (ms)	20				
	Simulation	OFF		*		
	-	10.00				
	TEST TCP 1	MW/2000	RW			
	TEST TCP 2	MW/2002	RW			

14. Save your project.

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- 15. Restart the OPC server via , *Extras*  $\rightarrow$  , *Reconfigure OPC Server*  $\therefore$
- 16. With *,Check online values'* via right mouse click on any tag you can read the current value directly from the PLC (see pictures below).

OPC-Editor - (CAProgram Fi	les (x86)\Vipa GmbH\OPC Server\INf\VO	IPCSRV.ini)	
File Edit Extras ?			
		v	/IPA
OPC-Project     WPLTest     CPU114     CPU114     CPU114     CPU114     CPU317SNEC	Property Filename for Tags Slot no. Remote IP address Dynamic tags Cyclic time (mt) Statulation	Value CPU375NEC.cnv 2 152168.315 Rvv 20 0FF	
		Derinden Acces (de Sindefin Comert Mr200 Check enline uitre	Contine test     Tag CPU3175NEC/TEST_TCP_2     Destination MW2002     Access right RW     Value 2313     Quality good (non-specific)     Trmestamp 02.05.2014 09-58.02     DK



# 3 Revision History

#### 3.1 Changes:

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DATUM	ÄNDERUNGEN	BEARBEITER
24.01.2007	Erstellung	A. Mühlfelder
02.06.2014	Überarbeitung Layout und Textanpassungen	N. Schlimm
20.03.2014	Übersetzung Englisch	N. Schlimm
02.06.2014	Textanpassung und Screenshots (Englisch)	M. Dörnhöfer