

GEMÜ SideStep® Motorized Actuator with integrated control module Profibus DP



OPERATING INSTRUCTIONS





ACTRONIC[®] Profibus DP Operating instructions SideStep[®] Industrial Positioner

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1. Technical Data - GEMÜ SideStep Profibus-DP

Protocol flow

GSD data file G9ASSind.GSD

PNO ID 0x2079

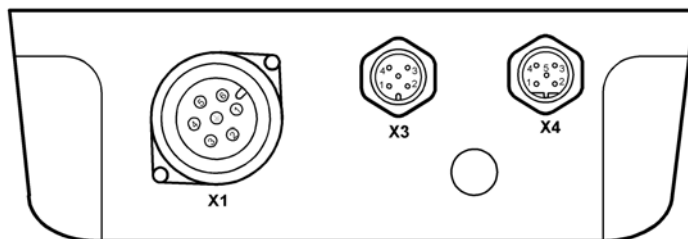
Baud rate

- 9.6 baud
- 19.2 baud
- 93.75 baud
- 187.5 baud
- 500 baud
- 1.5 Mbaud
- 3 Mbaud
- 6 Mbaud
- 12 Mbaud

Profibus address 26
(Default setting)

2. Electrical connections

2.1. GEMÜ SideStep Industrial Positioner Profibus DP

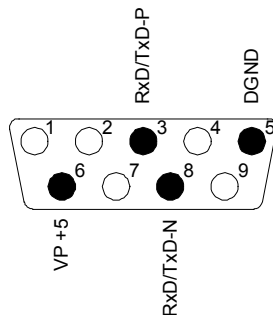


Connection	Pin	Signal name
X1 Connector plug	1	Uv, L1 / L+ supply voltage
	2	Uv, N / L- supply voltage
	3	n.c.
	4	n.c.
	5	n.c.
	6	n.c.
	⏏	PE conductor

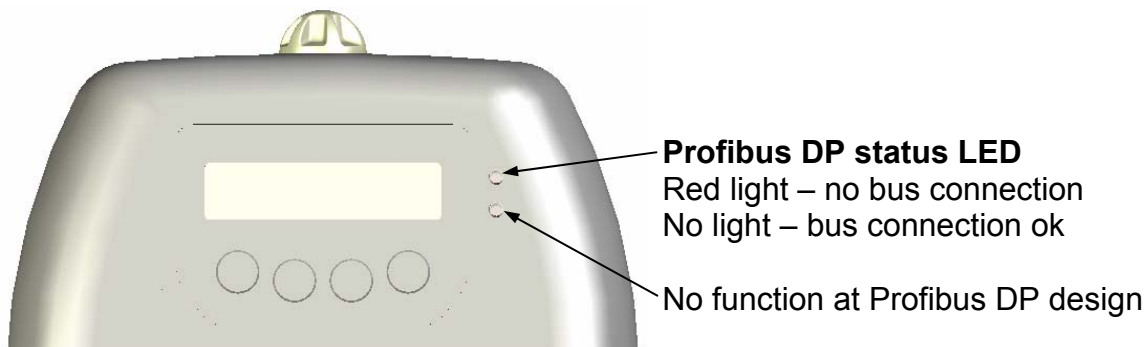
Connection	Pin	Signal name
X3 M12 plug B coding PB in	1	n.c.
	2	RxD/TxD-N
	3	n.c.
	4	RxD/TxD-P
	5	Shield

Connection	Pin	Signal name
X4 M12 socket B coding PB out	1	BUS-VDC, +5V DC
	2	RxD/TxD-N
	3	DGNG
	4	RxD/TxD-P
	5	Shield

2.2. RS-485



2.3. Profibus DP status LED



2.4. Supply voltage

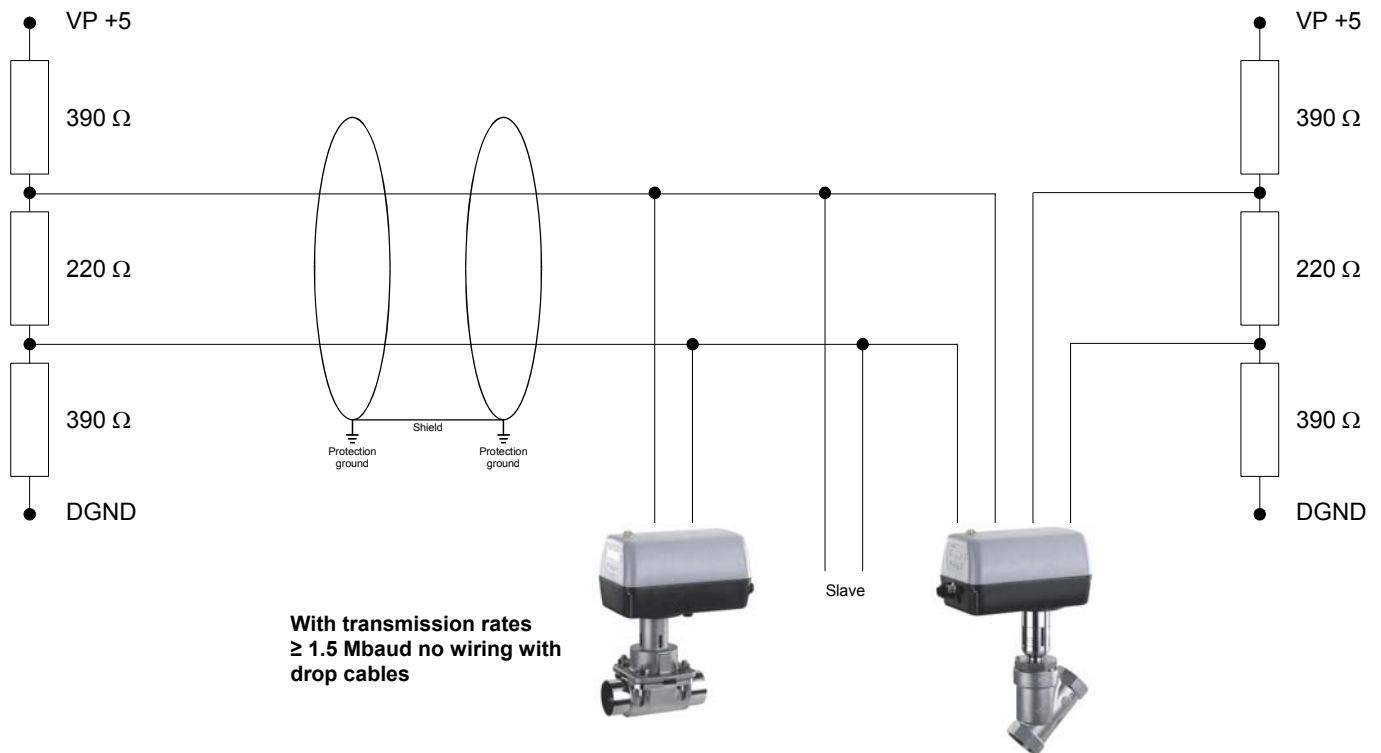
2.4.1. 24V DC supply voltage

Stecker	Pin	Signal name	Wiring
X1	1	Uv, L+ supply voltage	
X1	2	Uv, L- supply voltage	

2.4.2. 120V 50/60Hz or 230V 50/60Hz supply voltage

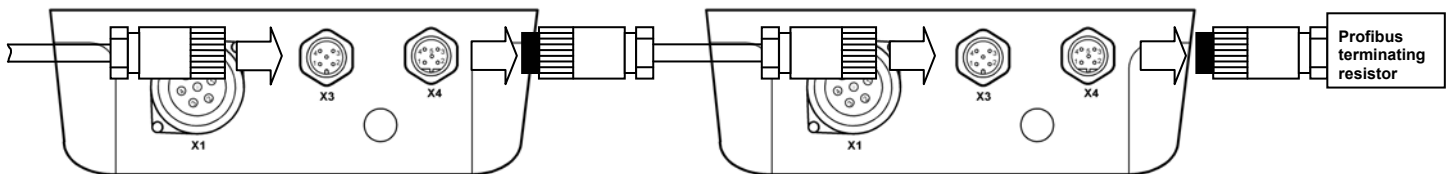
Stecker	Pin	Signal name	Wiring
X1	1	Uv, L1 supply voltage	
X1	2	Uv, N supply voltage	

3. Wiring in the Profibus system



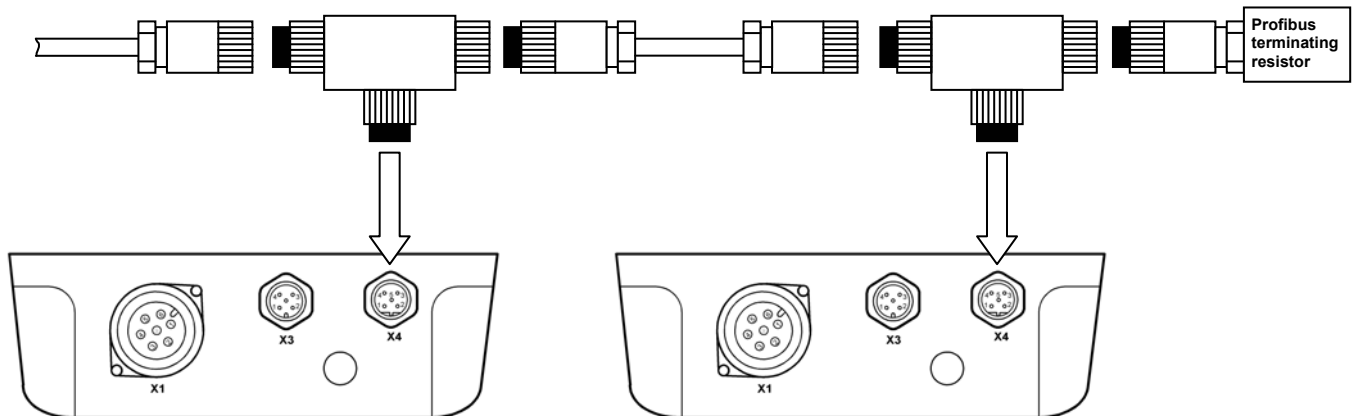
4. Serial wiring in the bus system

With a transmission rate ≥ 1.5 Mbaud.



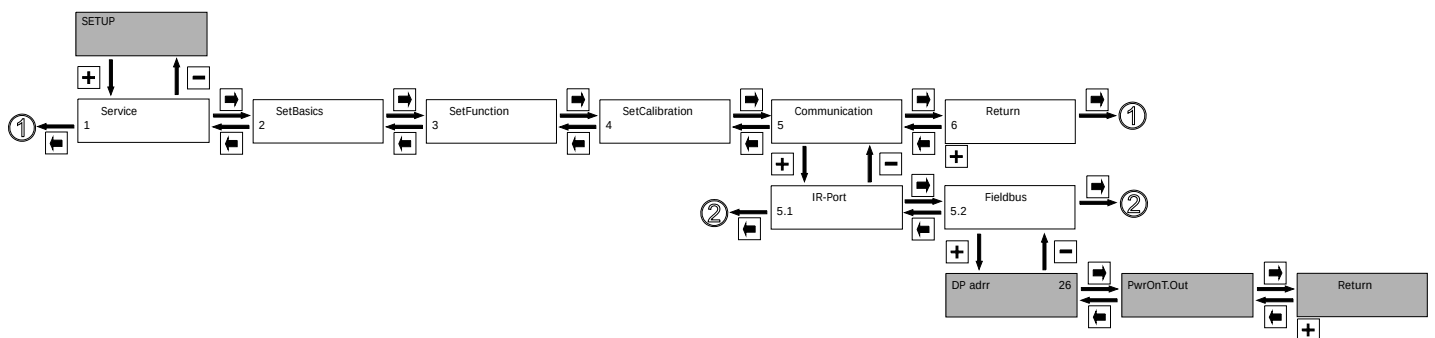
5. Bus wiring via drop cable

With a transmission rate $\leq 1.5\text{Mbaud}$.



6. Different configuration menu

The GEMÜ SideStep with Profibus DP has the following expanded configuration menu compared to the standard SideStep:



DP Addr

Determines the Profibus address of the actuator.

PwrOnT.Out

Defines the time between error recognition and message when the actuator is switched on.

7. Cyclic Profibus data

Input data: (Profibus ← SideStep)

Addr. 0	Addr. 2	Addr. 3
2 bytes	1 byte	8 bytes
Position	Dig. Out	Parameters / Actions / Errors

Output data: (Profibus → SideStep)

Addr. 0	Addr. 2	Addr. 4	Addr. 5
2 bytes	2 bytes	1 byte	8 bytes
Set value	Actual value	Dig. In	Parameters / Action / Errors

7.1. Set value

Profibus → SideStep

The set value is transmitted from the master to the SideStep in per mille.
 Excessive set values (0x11) trigger an external diagnostic error.

0..1000
2 bytes

7.2. Actual value

Profibus → SideStep

The actual value is transmitted from the master to the SideStep in per mille.
 Excessive actual values (0x13) trigger an external diagnostic error.

0..1000
2 bytes

7.3. Digital input

Profibus → SideStep

The digital inputs are transmitted from the master to the SideStep. There are 4 inputs available.

0..0x0F	SideStep parameters	
1 byte	In W	Addr. 4.0
	In X	Addr. 4.1
	In 1	Addr. 4.2
	In 2	Addr. 4.3

7.4. Valve position

Profibus ← SideStep

The valve position is transmitted from the SideStep to the master in per mille.
 In the Nolnit state, the position corresponds to the potentiometer range. After the initialisation (InitValve), the position corresponds to the valve area.

0..1000
2 bytes

7.5. Digital output

Profibus ← SideStep

The digital outputs are transmitted from the SideStep to the master. There are 3 outputs available.

0..0x03	SideStep parameters	
1 Byte	K1	Addr. 2.0
	K2	Addr. 2.1
	Ext. diagnostics	Addr. 2.7

7.6. Parameter data: Parameters / Actions / Errors

SideStep ↔ Profibus

Parameters / Actions / Errors:

Toggle	Para code	Para ID	Para value
1 byte	1 byte	2 bytes	4 bytes
8 bytes			

If the same information is sent more than once, the data record needs to be changed via the toggle byte.

7.6.1. No action

When using the “N” (NOP) instruction, no action is carried out. The response is another NOP instruction.

Inquiry from the master:

0xYY	0x4E (“N”)	0x00, 0x00	0x00, 0x00, 0x00, 0x00
1 byte	1 byte	2 bytes	4 bytes

Response of the SideStep:

0xYY	0x4E (“N”)	0x00, 0x00	0x00, 0x00, 0x00, 0x00
1 byte	1 byte	2 bytes	4 bytes

7.6.2. Change parameters

The “S” (SET) instruction enables the change of a parameter in the SideStep via the Profibus. As a response, the SideStep returns the SET instruction with the changed parameter value. If the value is higher than the valid range, an external diagnostic error with code 0x21 is generated; if below, the error generated has code 0x20.

Where the parameter does not exist, the diagnostic error triggered has code 0x22, and the value returned is 0.

In case of a parameter change, the new value of the parameter is returned to the master together with a SET instruction.

Where the parameter does not exist, the value returned is 0.

Inquiry from the master:

0xYY	0x53 (“S”)	ID	Value of the parameter
1 byte	1 byte	2 bytes	4 bytes

Response of the SideStep:

0xYY	0x53 (“S”)	ID	Value of the parameter
1 byte	1 byte	2 bytes	4 bytes

The individual parameters of the GEMÜ SideStep are on page 19.

Ex: The **Mode** parameter needs to be changed to **Manual**.

0xYY	0x53 (“S”)	ID	Value of the parameter
		Mode	Manual
0xYY	0x53	0x64	0x00, 0x00, 0x00, 0x02

7.6.3. Request parameters

The “G” (GET) instruction is used to request from the SideStep the value of a parameter via the Profibus. The SideStep responds with a GET instruction containing the parameter value.

Where the parameter does not exist, an external diagnostic error with code 0x22 is triggered.

Inquiry from the master:

0xYY	0x47 (“G”)	ID2	0x00 0x00 0x00 0x00
1 byte	1 byte	2 bytes	4 bytes

Response of the SideStep:

0xYY	0x47 (“G”)	ID	Value of the parameter
1 byte	1 byte	2 bytes	4 bytes



When the parameter value in the GEMÜ SideStep changes, it is immediately sent to the Profibus master. There is no need to continuously request the parameter.

7.6.4. Read error list

The error list is requested using the “E” (Error List) instruction.

Inquiry from the master:

0xYY	0x45 (“E”)	Serial number of error in the list	0x00, 0x00, 0x00, 0x00
1 byte	1 byte	2 bytes	4 bytes

The first error is requested with 0x00 0x00

Response of the SideStep:

0xYY	0x45 (“E”)	Serial number of error in the list	Error information
1 byte	1 byte	2 bytes	4 bytes



Attention:

- When a new error occurs, the serial numbering of the listed errors changes. Error 0 then becomes Error 1, Error 1 becomes Error 2, etc.
- Once the error list is full, the oldest error in the list is deleted.
- If no entry on the required number is found in the error list, an external diagnostic error with code 0x34 is triggered. In this case the response value is 0xFF 0xFF 0xFF 0xFF
- With number 0 the current error can be monitored
- If there is no error in the error list, error 0x00 0x00 0x00 0x00 is displayed

7.6.5. Amount of active errors and readout of the active error

The “D” instruction is used to request the amount of active errors and the active error selected using the ID.

Inquiry from the master:

0xYY	0x44 (“D”)	Number of active error	0x00, 0x00, 0x00, 0x00
1 byte	1 byte	2 bytes	4 bytes

The first error is requested with 0x00 0x00

Response of the SideStep:

0xYY	0x44 (“D”)	Number of active error	Amount of active errors	Value of active error (selected via ID)
1 byte	1 byte	2 bytes	4 bytes	

Example:

The SideStep motor does not move during the time shown in the “TravelTime” parameter. Error “022: TRAVEL T ERR” is triggered, the error is active.

Inquiry from the master:

0x00	0x44	0x00, 0x00	0x00, 0x00, 0x00, 0x00
------	------	------------	------------------------

Response of the SideStep:

0x00	0x44	0x00, 0x00	0x00, 0x01, 0x00, 0x15
------	------	------------	------------------------

Example:

An error with error number (ID) 0x15 or 21_{dec} is active.

Error list

Error name	Parameter ID Hex	Parameter ID Dec	Description
NO ERROR	0x00 0x00	0	There are no errors
Iw < 4 mA	0x00 0x0A	10	The set value signal is lower than 4mA
Iw > 20 mA	0x00 0x0B	11	The set value signal is higher than 20mA
Ix < 4 mA	0x00 0x0C	12	The actual value signal is lower than 4 mA
Ix > 20 mA	0x00 0x0D	13	The actual value signal is higher than 20mA
POWER FAIL	0x00 0x14	20	Power supply failure (only with optional emergency power supply module)
TRAVEL T ERR	0x00 0x15	21	Potentiometer error during normal operation
Bus Fault	0x00 0x28	40	Bus fault was recognized

7.6.6. Amount of active warnings and readout of the active warning

The "W" instruction advises the Profibus of the amount of active warnings. It functions analogous to the "D" instruction (readout active error messages) but refers to warnings rather than error messages.

Inquiry from the master:

0xYY	0x57 ("W")	Number of active warning	0x00, 0x00, 0x00, 0x00
1 byte	1 byte	2 bytes	4 bytes

7.6.7. Trigger action in the SideStep

The "A" (Action) instruction is used to trigger an action in the SideStep. Depending on the action to be triggered, additional parameters may be required.

As long as an action is active, no other action may be triggered. Where this is attempted, the SideStep will ignore the new action and generate an external diagnostic error with code 0x40.

Inquiry from the master:

0xYY	0x41 ("A")	ID	Parameter
1 byte	1 byte	2 bytes	4 bytes



Only one action may be active at a time. If no action is active, the SideStep responds as described in the individual actions.
If an action is active, the field bus will create the following response:

Response of the SideStep:

0xYY	0x41 ("A")	ID	0xFF	Source	Number
1 byte	1 byte	2 bytes	1 byte	1 byte	2 bytes

Source:

Active action was started via the GEMÜ SideStep keypad. ➔ Acknowledge (quit) at the GEMÜ SideStep	0x01
Active action was started via the e. ^{sy} -com interface of the GEMÜ SideStep. ➔ Close active browser window	0x02
Active action was started via the field bus. ➔ Quit with instruction "Q" or ➔ Select action again and quit	0x03

7.6.8. Quit TravelTimeError

Quit TravelTimeError is used to acknowledge a "TravelTimeError" that has occurred.

Instruction from the master

0xYY	0x41	0x00, 0x07	Function
1 byte	1 byte	2 bytes	4 bytes

Function:

Acknowledge TravelTimeError	0x00,0x00,0x00,0x01
-----------------------------	---------------------

Response of the SideStep:

0xYY	0x41	0x00, 0x07	Status
1 byte	1 byte	2 bytes	4 bytes

Status:

TravelTimeError acknowledged	0x00,0x00,0x00,0x01
TravelTimeError not acknowledged	0x00, 0x00, 0x00, 0x02

7.6.9. Quit field bus event

The instruction "Q" (Quit) is used to stop an active event.
This event acknowledges all active events activated via the field bus.

Instruction from the master:

0xYY	0x51 („Q“)	0x00 0x00	0x00 0x00 0x00 0x00
1 Byte	1 Byte	2 Byte	4 Byte

Response of the SideStep:

0xYY	0x51 („Q“)	0x00 0x00	0x00 0x00 0x00 0x00
1 Byte	1 Byte	2 Byte	4 Byte

7.6.10. *Nolnit*

With “Nolnit”, the actuator can be opened and closed manually if not yet initialised. Where this action is activated once the SideStep has been initialised, the SideStep will generate an external diagnostic error with code 0x42.

Instruction from the master:

0xYY	0x41 (“A”)	0x00, 0x01	Function
1 byte	1 byte	2 bytes	4 bytes

Function:

Stop valve	0x00, 0x00, 0x00, 0x00
Open slowly	0x01, 0x00, 0x00, 0x00
Open quickly	0x02, 0x00, 0x00, 0x00
Close slowly	0x03, 0x00, 0x00, 0x00
Close quickly	0x04, 0x00, 0x00, 0x00
Open with PWM [0..1000]	0x05, 0x00, PWM High, PWM Low
Close with PWM [0..1000]	0x06, 0x00, PWM High, PWM Low
End event	0x07, 0x00, 0x00, 0x00

The status reported is the current valve function selected.

Response of the SideStep:

0xYY	0x41 (“A”)	0x00, 0x01	Status
1 byte	1 byte	2 bytes	4 bytes

Status:

Stop valve	0x00, 0x00, 0x00, 0x00
Open slowly	0x01, 0x00, 0x00, 0x00
Open quickly	0x02, 0x00, 0x00, 0x00
Close slowly	0x03, 0x00, 0x00, 0x00
Close quickly	0x04, 0x00, 0x00, 0x00
Open with PWM [0..1000]	0x05, 0x00, PWM High, PWM Low
Close with PWM [0..1000]	0x06, 0x00, PWM High, PWM Low
End event	0x07, 0x00, 0x00, 0x00

7.6.11. Clear Error List

This action clears the entries from the error list.

Instruction from the master:

0xYY	0x41 ("A")	0x00, 0x02	0x00, 0x00, 0x00, 0x00
1 byte	1 byte	2 bytes	4 bytes

Response of the SideStep:

0xYY	0x41 ("A")	0x00, 0x02	Status
1 byte	1 byte	2 bytes	4 bytes

Status:

Error list cleared (action is ended)	0x00, 0x00, 0x00, 0x01
Error list not cleared (action remains active)	0x00, 0x00, 0x00, 0x02

7.6.12. Set Default

This action sets the SideStep to the default state.

Instruction from the master:

0xYY	0x41 ("A")	0x00, 0x03	0x00, 0x00, 0x00, 0x00
1 byte	1 byte	2 bytes	4 bytes

Response of the SideStep:

0xYY	0x41 ("A")	0x00, 0x03	Status
1 byte	1 byte	2 bytes	4 bytes

Status:

Default setting loaded (action is ended)	0x00, 0x00, 0x00, 0x01
Default setting not loaded (action remains active)	0x00, 0x00, 0x00, 0x02

7.6.13. Init valve

This action initialises the valve. The SideStep here determines the open and closed position.

Instruction from the master:

0xYY	0x41 ("A")	0x00, 0x04	Function
1 byte	1 byte	2 bytes	4 bytes

Function:

Start initialisation	0x00, 0x00, 0x00, 0x01
Cancel initialisation	0x00, 0x00, 0x00, 0x02

Response of the SideStep:

0xYY	0x41 ("A")	0x00, 0x04	Status
1 byte	1 byte	2 bytes	4 bytes

In the status, the SideStep reports the action currently taken.

Status:

Initialisation inactive	0x00, 0x00, 0x00, 0x00
Closed position determined	0x00, 0x00, 0x00, 0x01
Open position determined	0x00, 0x00, 0x00, 0x02

7.6.14. GoClose

The motor moves the valve to the closed position. Once the valve is in the required position, this needs to be communicated to the SideStep. This then takes the position as "closed".

Instruction from the master:

0xYY	0x41 ("A")	0x00, 0x05	Function
1 byte	1 byte	2 bytes	4 bytes

Function

Go to closed position	0x00,0x00,0x00,0x01
In closed position	0x00,0x00,0x00,0x02
Cancel Close function (ESC)	0x00,0x00,0x00,0x03

Response of the SideStep:

0xYY	0x41 ("A")	0x00, 0x05	Status
1 byte	1 byte	2 bytes	4 bytes

Status:

Go to closed position	0x00,0x00,0x00,0x01
In closed position	0x00,0x00,0x00,0x02
Close function cancelled	0x00,0x00,0x00,0x03

7.6.15. GoOpen

The motor moves the valve to the open position. Once the valve is in the required position, this needs to be communicated to the SideStep. This then takes the position as "open".

Instruction from the master:

0xYY	0x41 ("A")	0x00, 0x06	Function
1 byte	1 byte	2 bytes	4 bytes

Function:

Go to open position	0x00,0x00,0x00,0x01
In open position	0x00,0x00,0x00,0x02
Cancel Open function (ESC)	0x00,0x00,0x00,0x03

Response of the SideStep:

0xYY	0x41 ("A")	0x00, 0x06	Status
1 byte	1 byte	2 bytes	4 bytes

Status:

Go to open position	0x00,0x00,0x00,0x01
In open position	0x00,0x00,0x00,0x02
Open function cancelled	0x00,0x00,0x00,0x03

8. External diagnostic errors

Defined error messages:

Error ID	Error
0x01	Data length service data from master to slave incorrect
0x02	Data length service data from slave to master incorrect
0x10	Specified set value too low
0x11	Specified set value too high
0x12	Specified actual value too low
0x13	Specified actual value too high
0x20	Specified parameter value too low
0x21	Specified parameter value too high
0x22	Parameter does not exist
0x30	Error in SideStep
0x31	Error in SideStep acknowledged
0x32	Warning in SideStep
0x33	Warning in SideStep acknowledged
0x34	No error list entry on the requested number available
0x40	Event active in SideStep, therefore no new event possible.
0x41	Active action cannot be affected by Profibus
0x42	NoInit not available
0x43	Event doesn't exist

9. Parameter numbers

Parameter	Parameter ID Hex	Parameter ID Dec	Access	Value range
Mode	0x64	100	Write	0: OFF 1: Auto 2: Manual 3: Test

SETUP

Service

I/O Status

ActiveParaSet	03E8	1000	Read	0: P1 1: P2 2: P3 3: P4
Pot Min	03E9	1001	Read	[0..1000] *0.1 %
Pot Max	03EA	1002	Read	[0..1000] *0.1 %
Proc W *	03EB	1003	Read	[0..1000] *0.1 %
Proc X *	03EC	1004	Read	[0..1000] *0.1 %
Pos W	03ED	1005	Read	[0..1000] *0.1 %
Pos X	03EE	1006	Read	[0..1000] *0.1 %
Pot Abs	03EF	1007	Read	[0..1000] *0.1 %
Pos Ctrl Out	03F0	1008	Read	[-1000..1000] *0.1 %
Proc Ctrl Out	03F1	1009	Read	[0..1000] *0.1 %

Diagnosis

Operating hour	044C	1100	Read	[0..99 999] h
Operating minute	044D	1101	Read	[0..59] min
Operating second	044E	1102	Read	[0..59] s
Warnings	044F	1103	Write	0: ON 1: OFF
Errors	0450	1104	Write	0: ON 1: OFF

SetBasics

D.Refresh	07D0	2000	Write	[1..10] *0,1s
Dlight	07D1	2001	Write	0: ON 1: ON Key
AutoReturn	07D2	2002	Write	[1..60] min
HelpLanguage	07D3	2003	Write	0: D 1: GB
Helptext	07D4	2004	Write	0: ON 1: OFF
PwrOnMode	07DF	2015	Write	0 : fast 1 : safe

* only available with integrated process controller version

SetBasics				
SpeedAdj				
StartSpOpen	07D7	2007	Write	[0..1000] *0.1 %
StartSpClose	07D8	2008	Write	[0..1000] *0.1 %
StopSpOpen	07D9	2009	Write	[0..1000,-1] *0.1 %
StopSpClose	07DA	2010	Write	[0..1000,-1] *0.1 %
Force ADj				
InitFOpen	07DB	2011	Write	[0..550] *0.1 %
InitFClose	07DC	2012	Write	[0..550] *0.1 %
ForceOpen	07DD	2013	Write	[0..550] *0.1 %
ForceClose	07DE	2014	Write	[0..550] *0.1 %

SetFunction				
ProcCtrlMode *	0BB8	3000	Write	0: OFF 1: ON
DeadBand	0BB9	3001	Write	[1..250] *0,1%
PwFailDir **	0BBA	3002	Write	0: Close 1: Open 2: Hold
CpyParaSet	0BBB	3003	Write	0: OFF 1: P1<=W 2: P1=>P2 3: P1<=P2 4: P1=>P3 5: P1<=P3 6: P1=>P4 7: P1<=P4
ProcCtrl				
Proc-P *	0C1C	3100	Write	[0..1000]*0.1
Proc-I *	0C1D	3101	Write	[0..9999]*0.1s
Proc-D *	0C1E	3102	Write	[0..1000]*0.1
Proc-T *	0C1F	3103	Write	[1..10 000] ms
IxType	0C20	3104	Write	0: OFF 1: RC 2: avr
IxFILTER	0C21	3105	Write	[10...2000] *0.01s
PosCtrl				
Pos P	0C80	3200	Write	[0..1000] *0.1
Pos D	0C81	3201	Write	[0..1000] *0.1
Pos T	0C82	3202	Write	[1..5000] ms
MinPos	0C83	3203	Write	[0..1000] *0.1 %
MaxPos	0C84	3204	Write	[0..1000] *0.1 %
closeTight	0C85	3205	Write	[0..200] *0.1 %
openTight	0C86	3206	Write	[800..1000] *0.1 %
TightTime	0C87	3207	Write	[800..120,0] *0.1 s

* only available with integrated process controller version

** only available with emergency power supply module version

SetFunction					
Digital Input					
In W	0CE4	3300	Write	0:	OFF
				1:	OFF/ON
				2:	Save/ON
				3:	ParamSetB0
				4:	ParamSetB1
In X	0CE5	3301	Write	0:	OFF
				1:	OFF/ON
				2:	Save/ON
				3:	ParamSetB0
				4:	ParamSetB1
In 1	0CE6	3302	Write	0:	OFF
				1:	OFF/ON
				2:	Save/ON
				3:	ParamSetB0
				4:	ParamSetB1
In 2	0CE7	3303	Write	0:	OFF
				1:	OFF/ON
				2:	Save/ON
				3:	ParamSetB0
				4:	ParamSetB1
Digital Output					
K1 Switch	0D48	3400	Write	0:	NO
				1:	NC
K1 Fn	0D49	3401	Write	0:	No
				1:	P min
				2:	P max
				3:	P min/max
				4:	W min
				5:	W max
				6:	W min/max
				7:	X min
				8:	X max
				9:	X min/max
				10:	Active
				11:	Error
				12:	Warning
AlarmMinK1	0D4A	3402	Write	[2..998] *0.1%	
AlarmMaxK1	0D4B	3403	Write	[2..998] *0.1%	
K2 Switch	0D4C	3404	Write	0:	NO
				1:	NC
K2 Fn	0D4D	3405	Write	0:	No
				1:	P min
				2:	P max
				3:	P min/max
				4:	W min
				5:	W max
				6:	W min/max
				7:	X min
				8:	X max
				9:	X min/max
				10:	Active
				11:	Error
				12:	Warning
AlarmMinK2	0D4E	3406	Write	[2..998] *0.1%	
AlarmMaxK2	0D4F	3407	Write	[2..998] *0.1%	

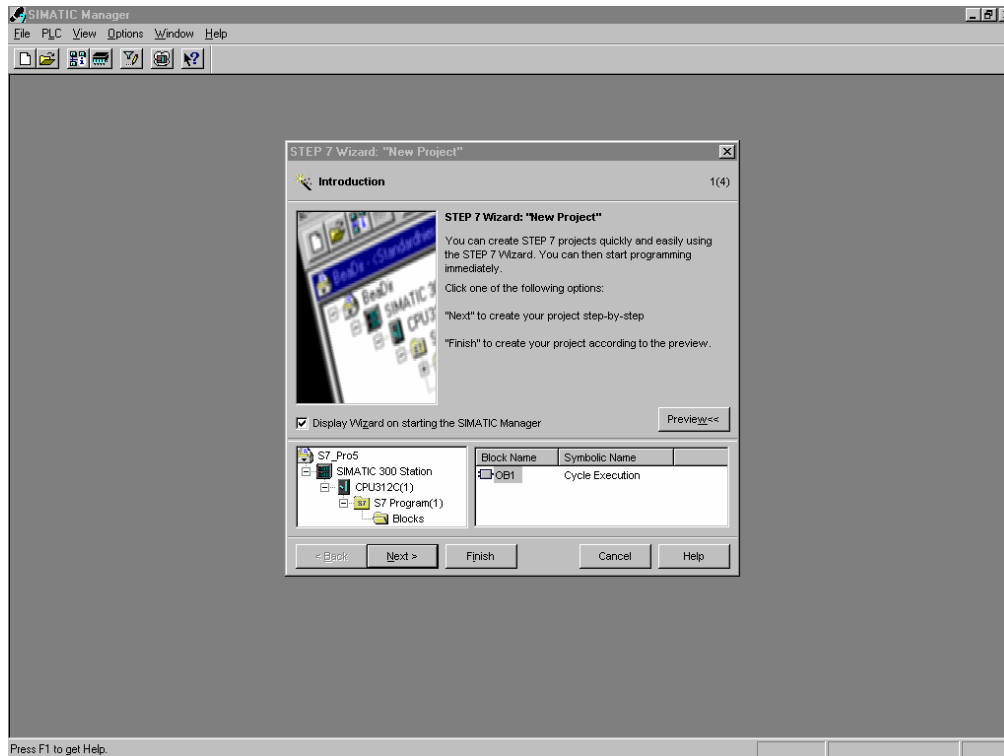
SetFunction				
ErrorTime	0D50	3408	Write	[2..1000] *0,1s
ErrorAction	0D51	3409	Write	0: Close 1: Open 2: Hold
TravelTErrFn	0D52	3410	Write	0: OFF 1: ON
TravelLevel	0D53	3411	Write	[0..1000] *0.1 %
TravelTime	0D54	3412	Write	[0..1200] *0.1 s

SetCalibration				
X-Direction *	0FA0	4000	Write	0: rise 1: fall
W-Direction	0FA1	4001	Write	0: rise 1: fall
W-Funktion	0FA2	4002	Write	0: lin. 1: 1:25 2: 1:50 3: free
Y-Direction*	0FA3	4003	Write	0: rise 1: fall
Pot Dir	0FA4	4004	Write	0: rise 1: fall
OutMinPos	0FA5	4005	Write	[0..1000] *0,1 %
OutMaxPos	0FA6	4006	Write	[0..1000] *0,1 %
Set W free				
W 0%	1004	4100	Write	[0..1000] *0.1 %
W 10%	1005	4101	Write	[0..1000] *0.1 %
W 20%	1006	4102	Write	[0..1000] *0.1 %
W 30%	1007	4103	Write	[0..1000] *0.1 %
W 40%	1008	4104	Write	[0..1000] *0.1 %
W 50%	1009	4105	Write	[0..1000] *0.1 %
W 60%	100A	4106	Write	[0..1000] *0.1 %
W 70%	100B	4107	Write	[0..1000] *0.1 %
W 80%	100C	4108	Write	[0..1000] *0.1 %
W 90%	100D	4109	Write	[0..1000] *0.1 %
W 100%	100E	4110	Write	[0..1000] *0.1 %
Scaling				
Scaling	1068	4200	Write	0: OFF 1: ON
Decimalpoint	1069	4201	Write	[0..2]
4mA△	106A	4202	Write	[-999..9999]
20mA△	106B	4203	Write	[-999..9999]

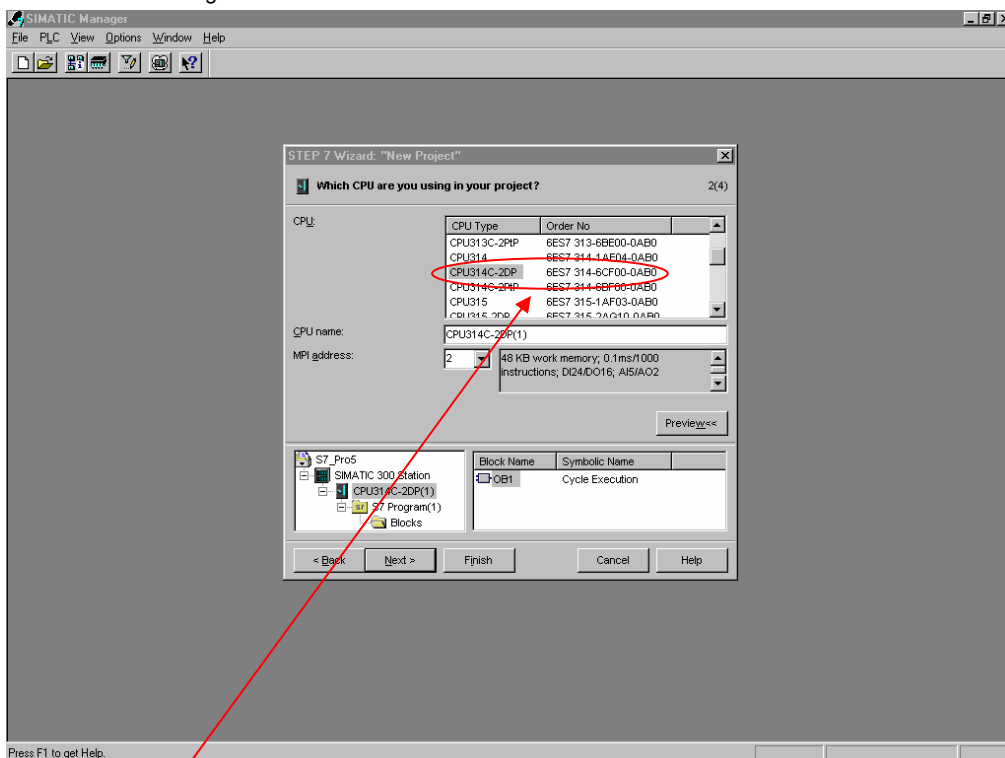
Communication				
Profibus ID	13EC	5100	Write	[1..126]
PwrOnT.Out	13ED	5101	Write	0...300 s

* only available with integrated process controller version

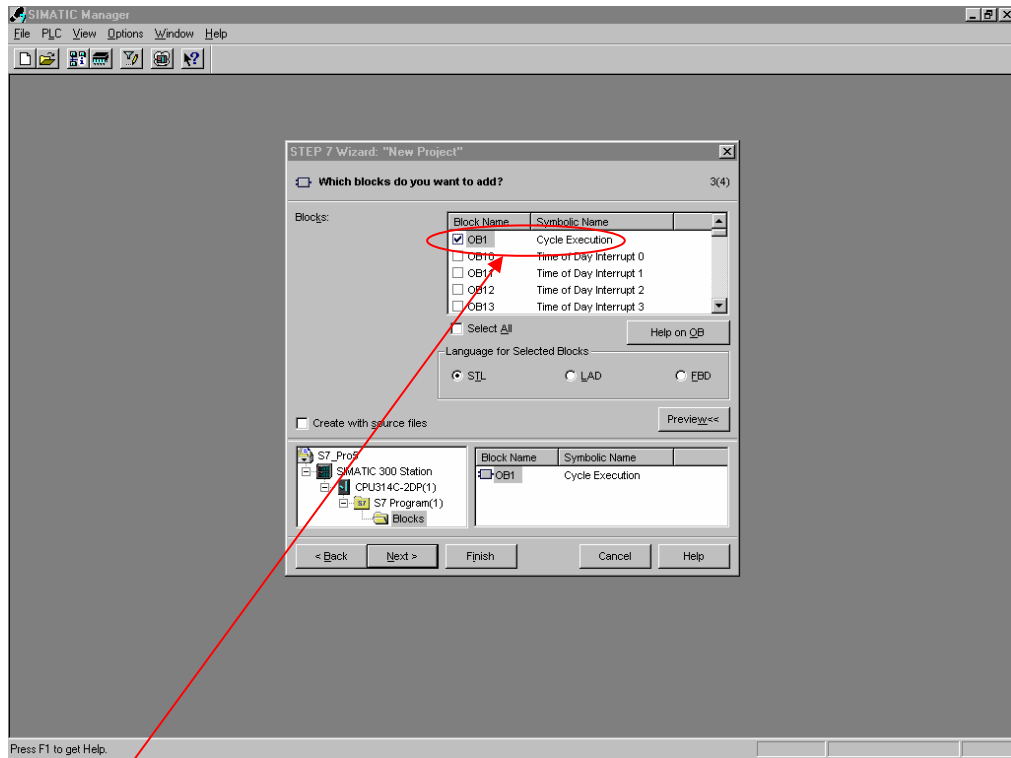
10. Configuration example using SIEMENS S7 (e.g. GEMÜ 1436 cPos)



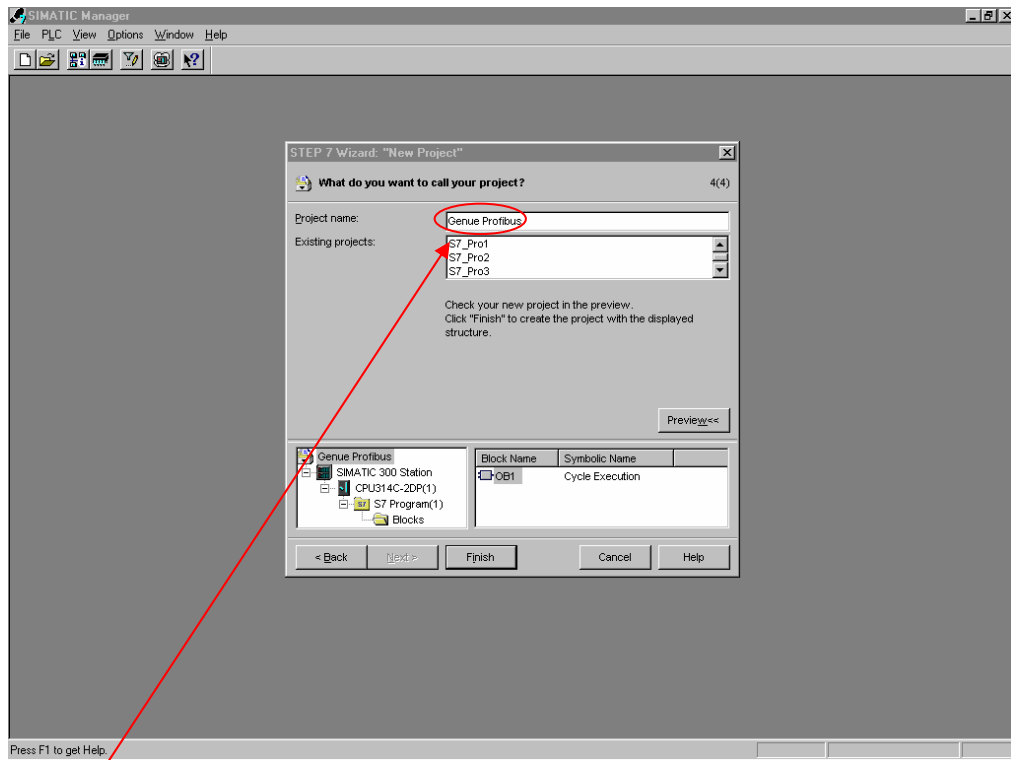
Start SIMATIC Manager and click on "Next" to continue



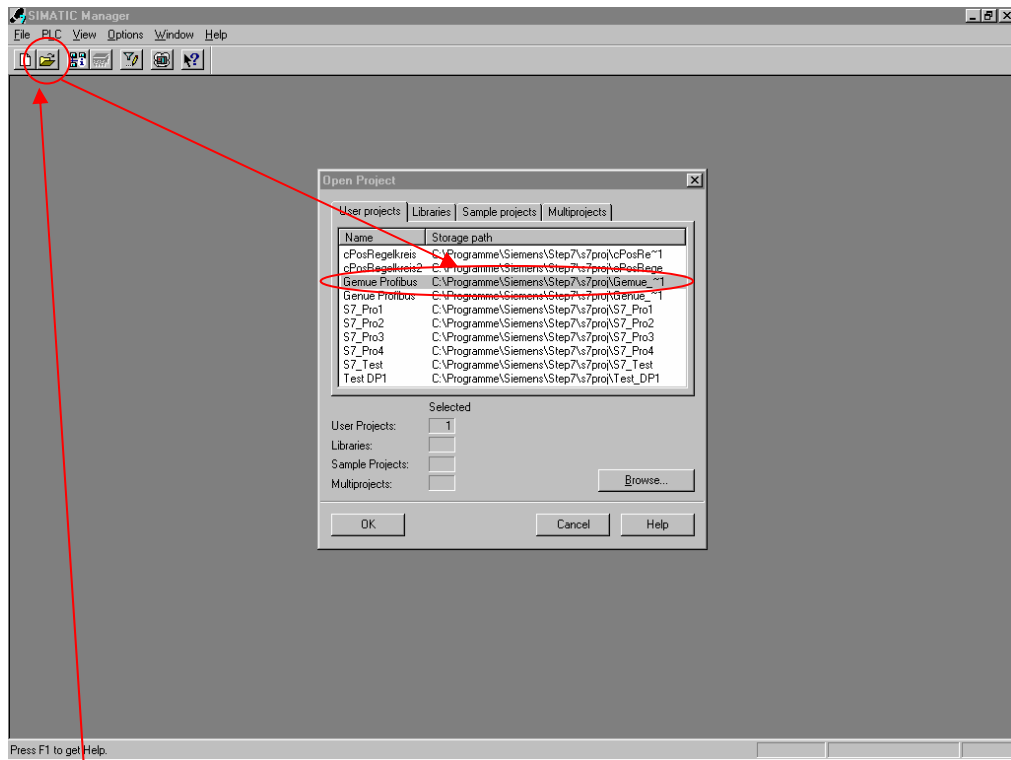
Select PLC type and click on "Next" to continue



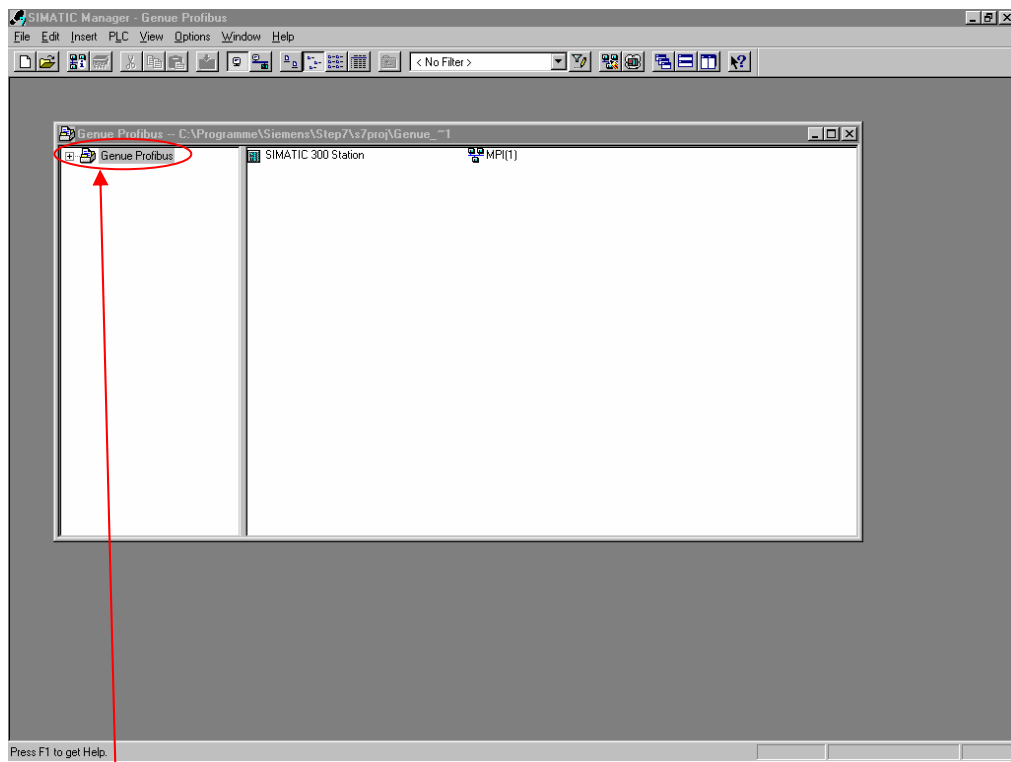
Insert new module and click on "Next" to continue



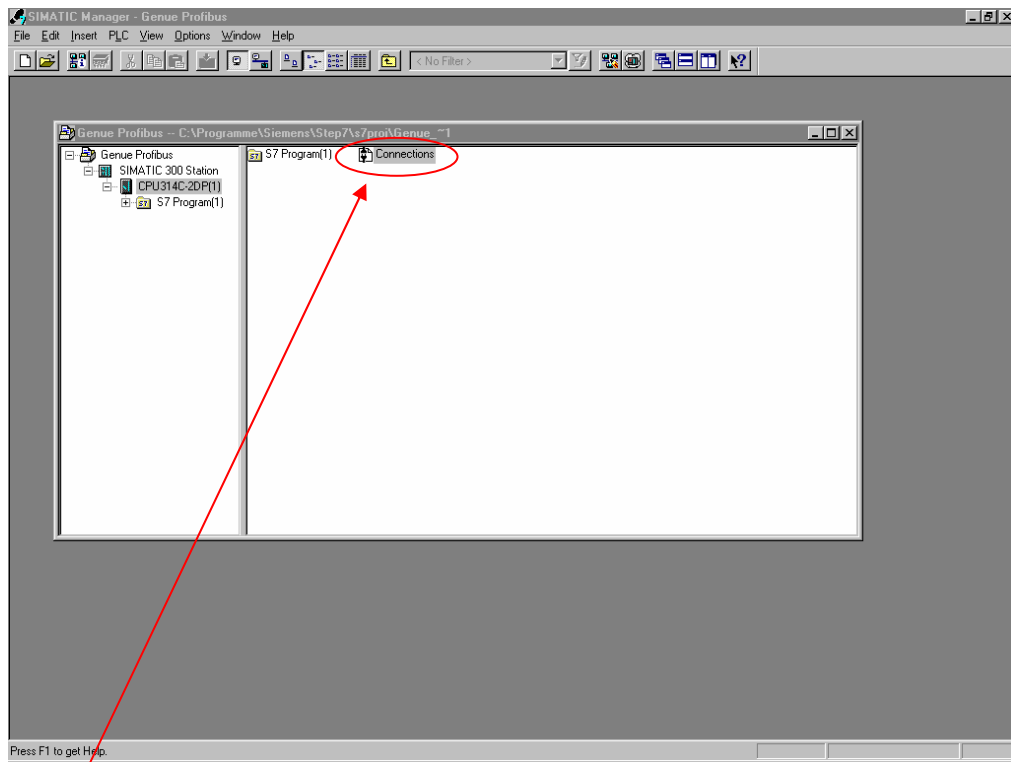
Enter project name and create project by clicking on "Finish"



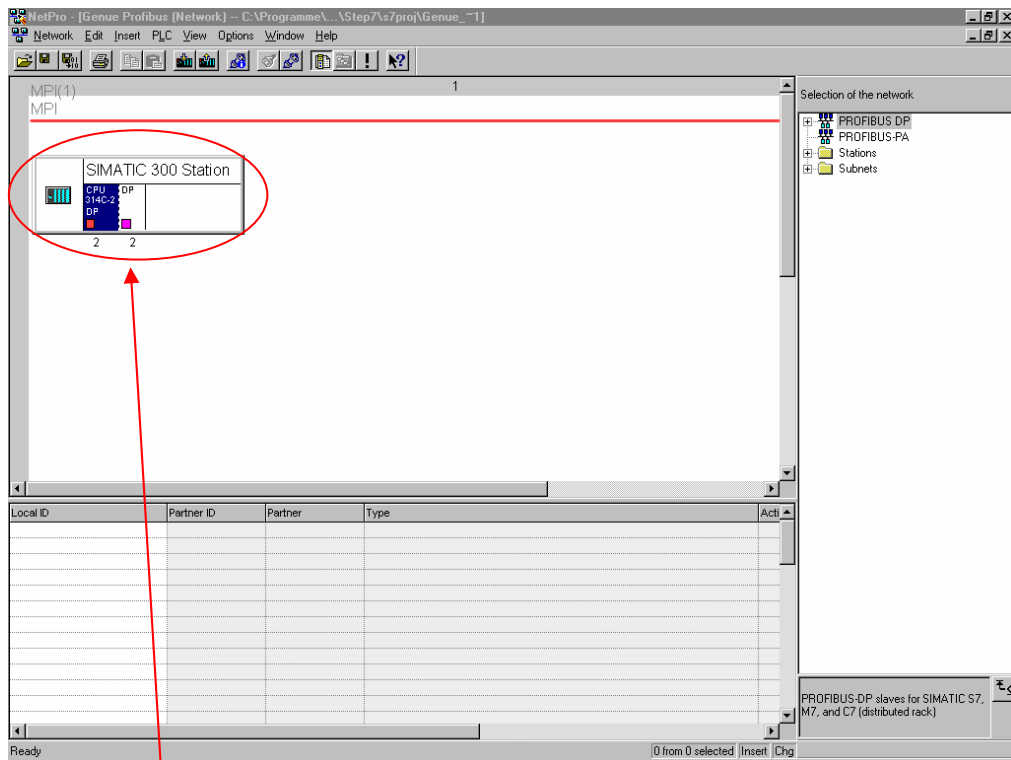
Open new project



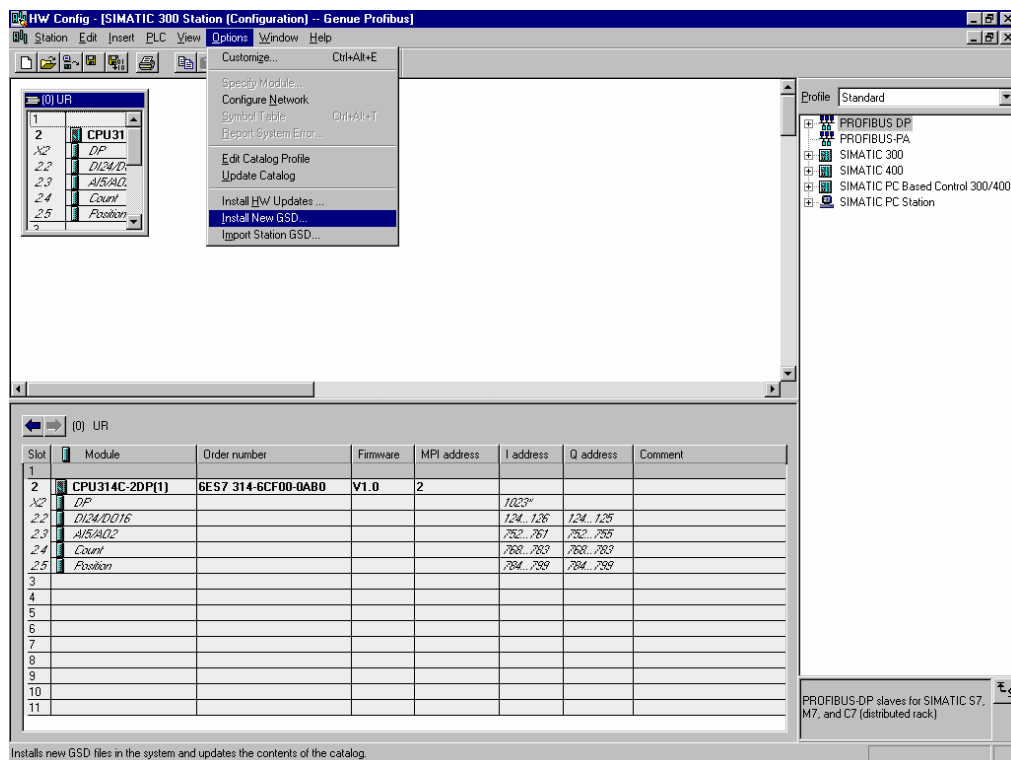
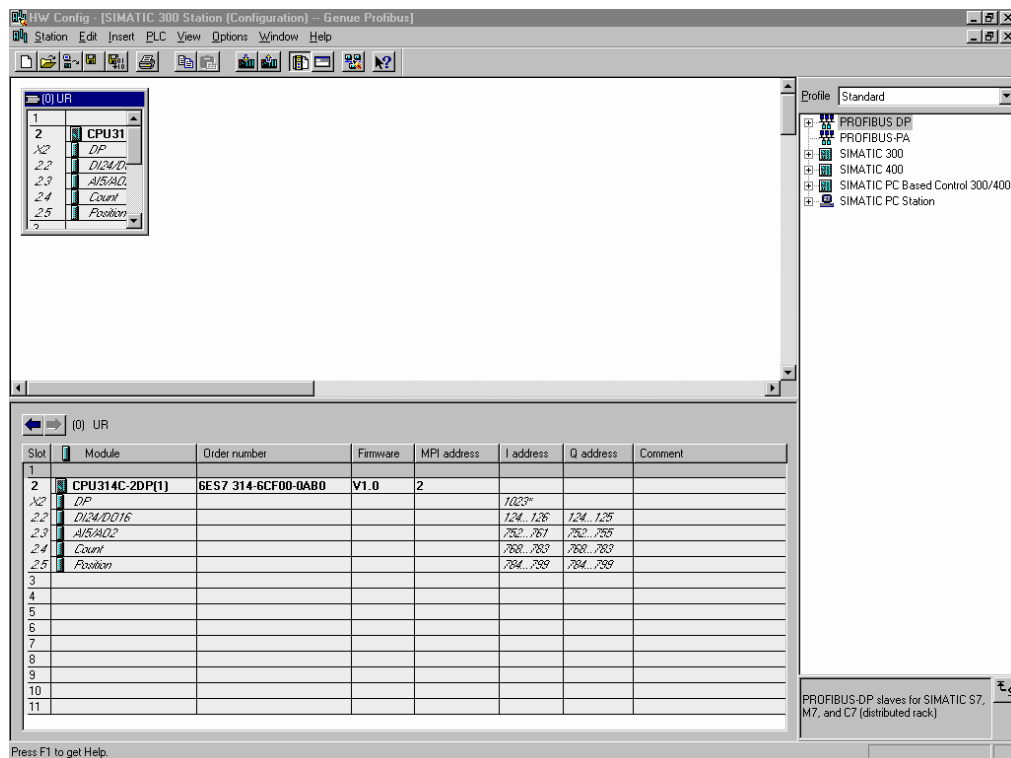
Open folder



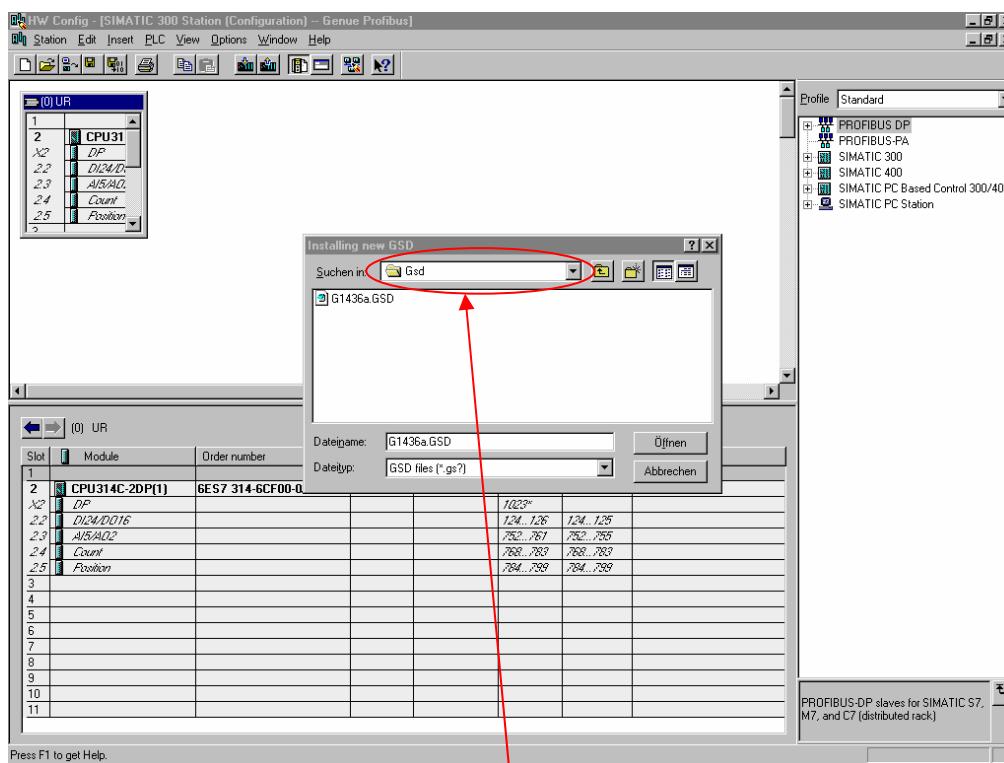
Configure project (double-click)



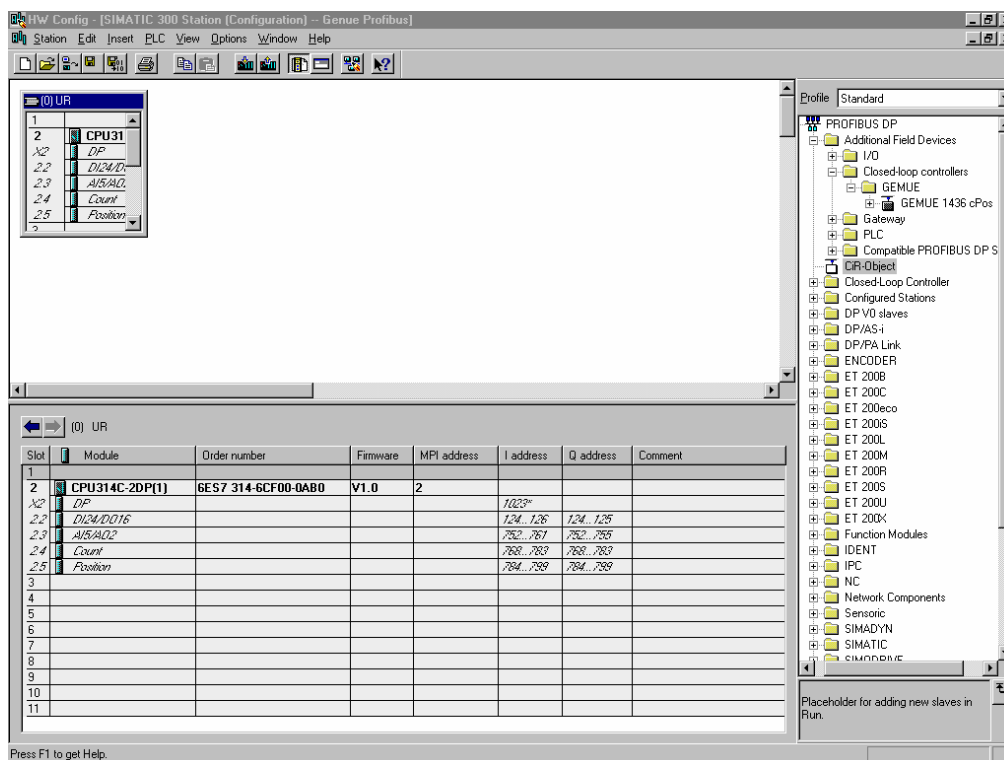
Activate window with double-click

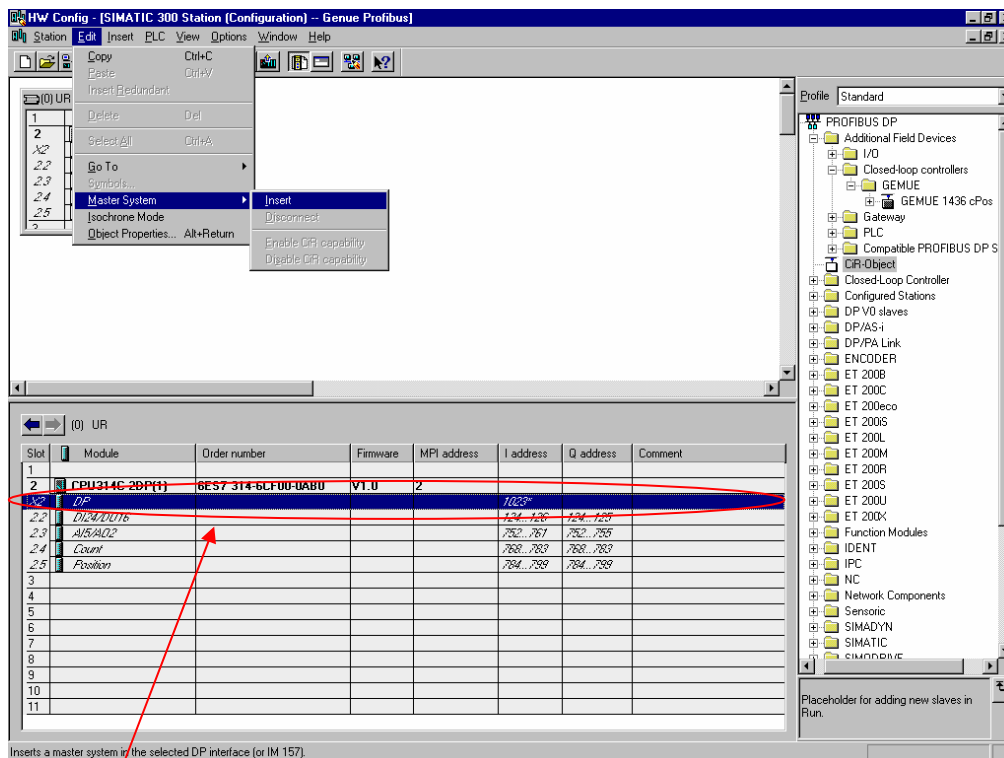


Install new GSD file (G1436a.GSD)

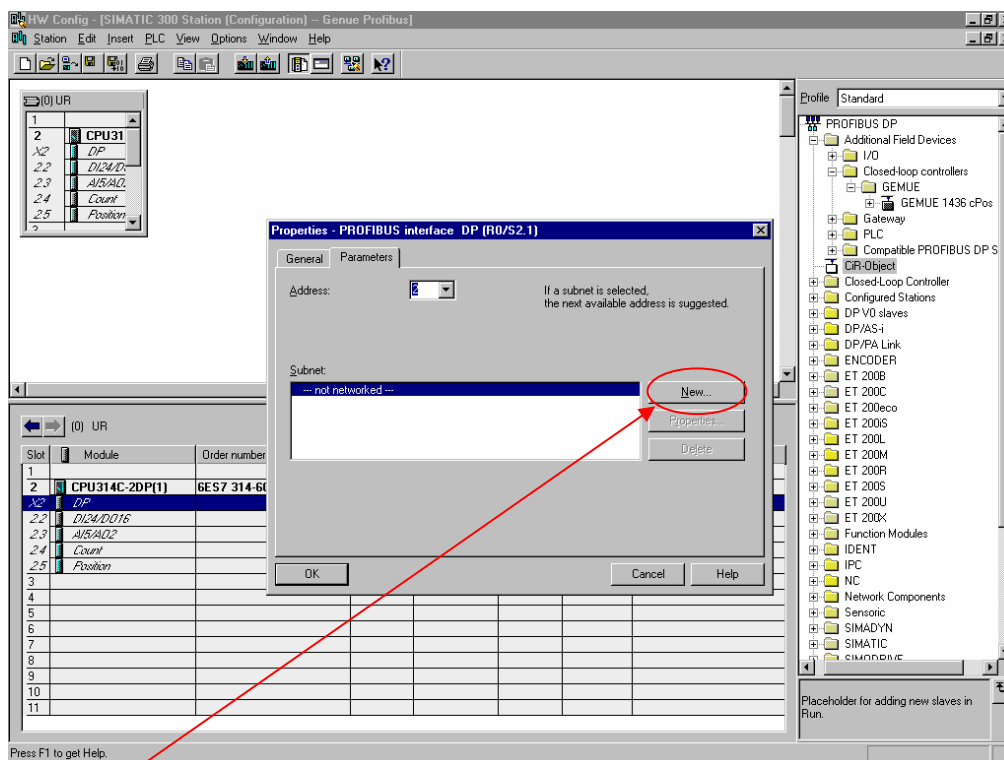


The GSD file is on the CD ROM supplied with every controller

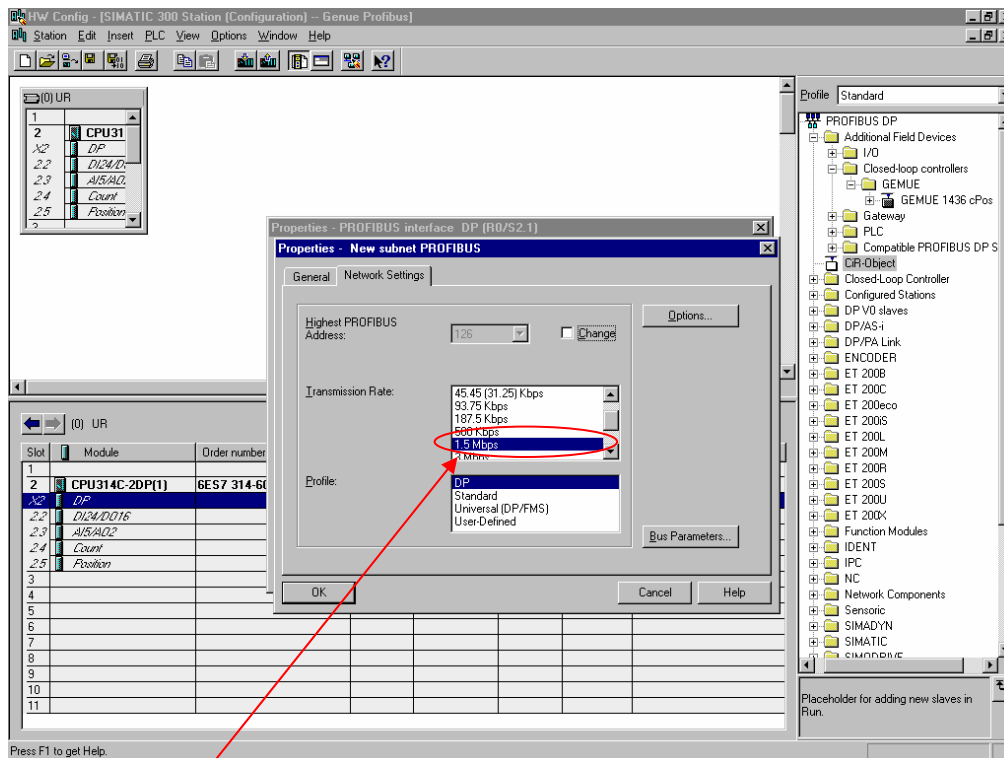




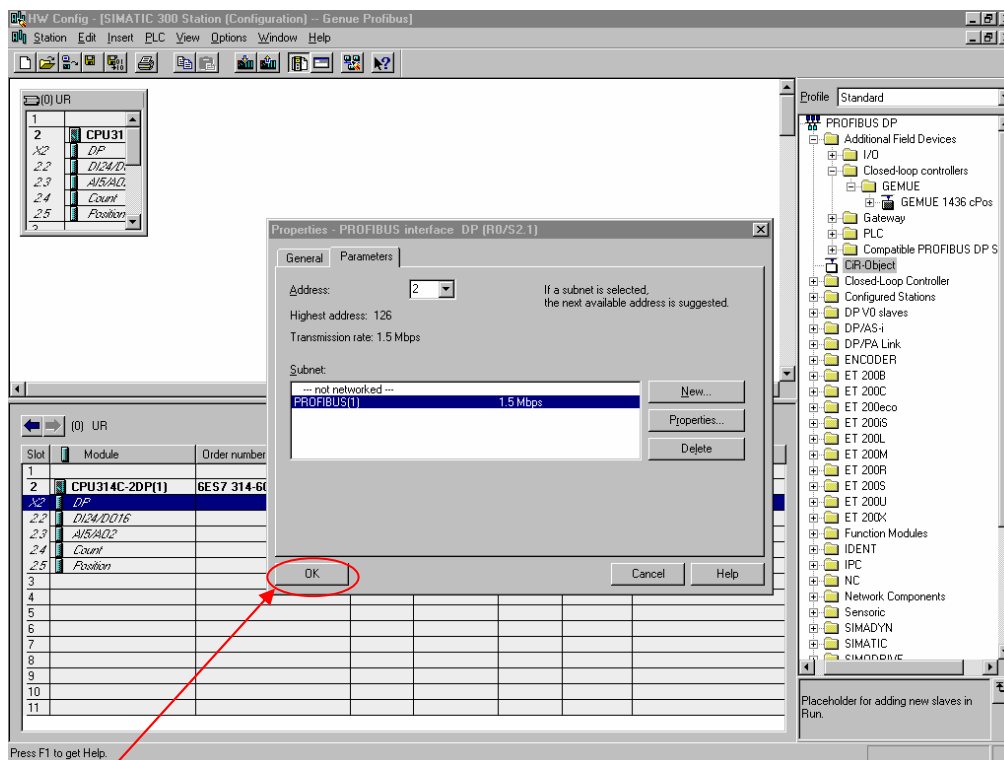
Select "DP" line



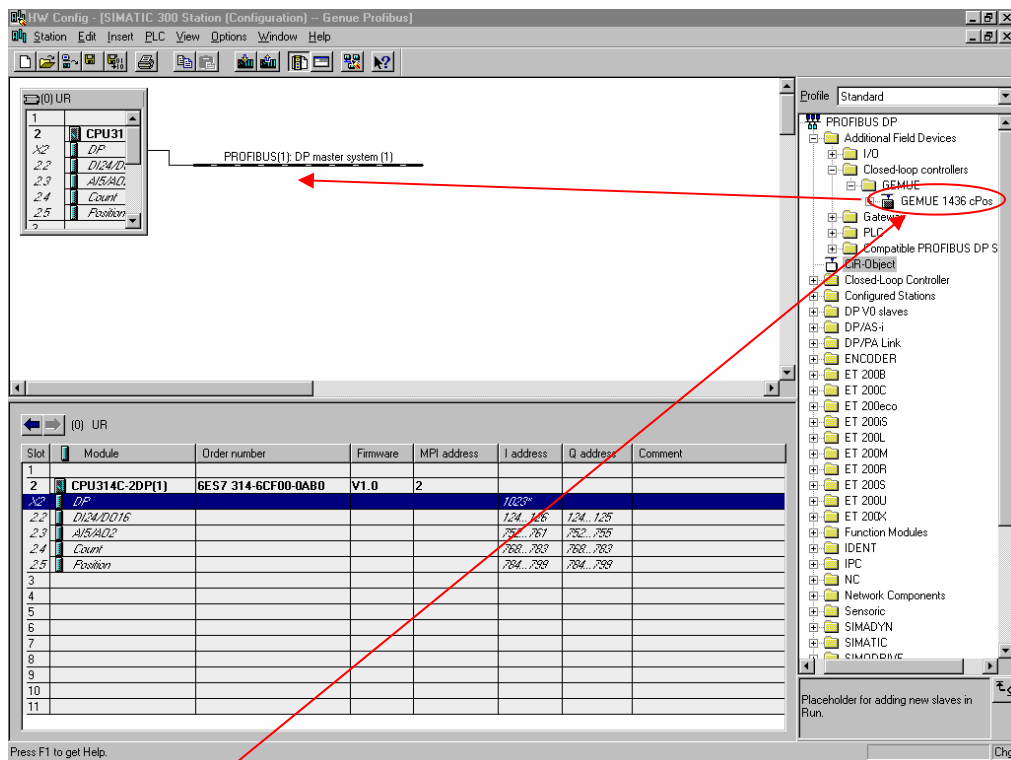
Select "New"



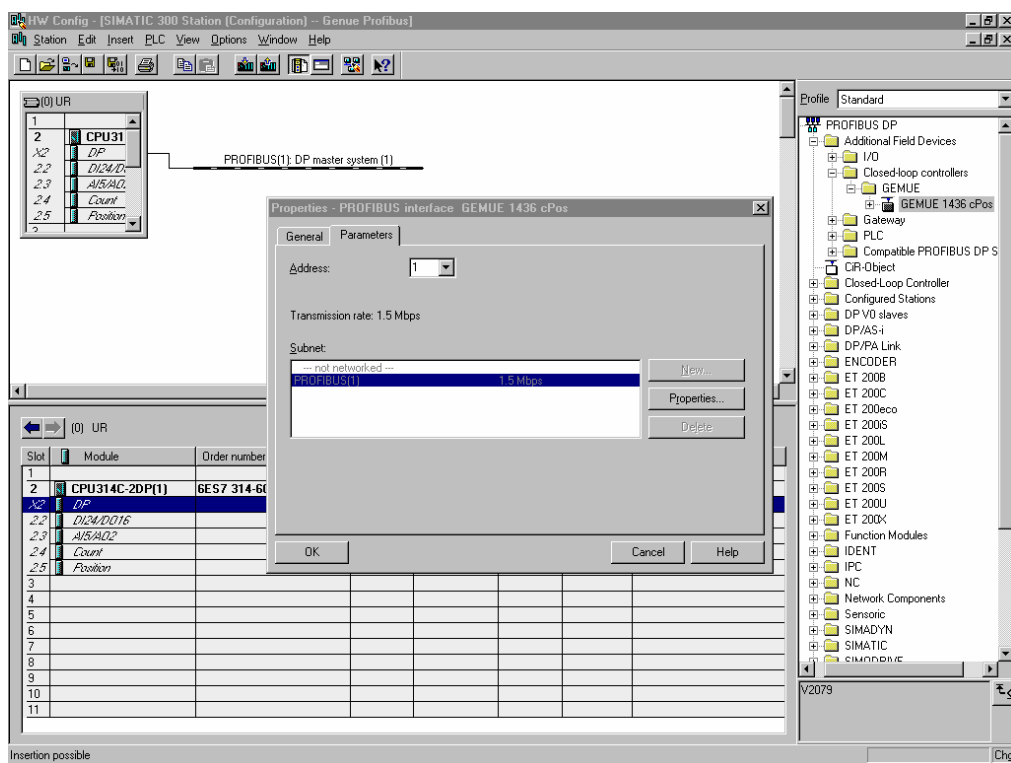
Select transmission speed and confirm with "OK"

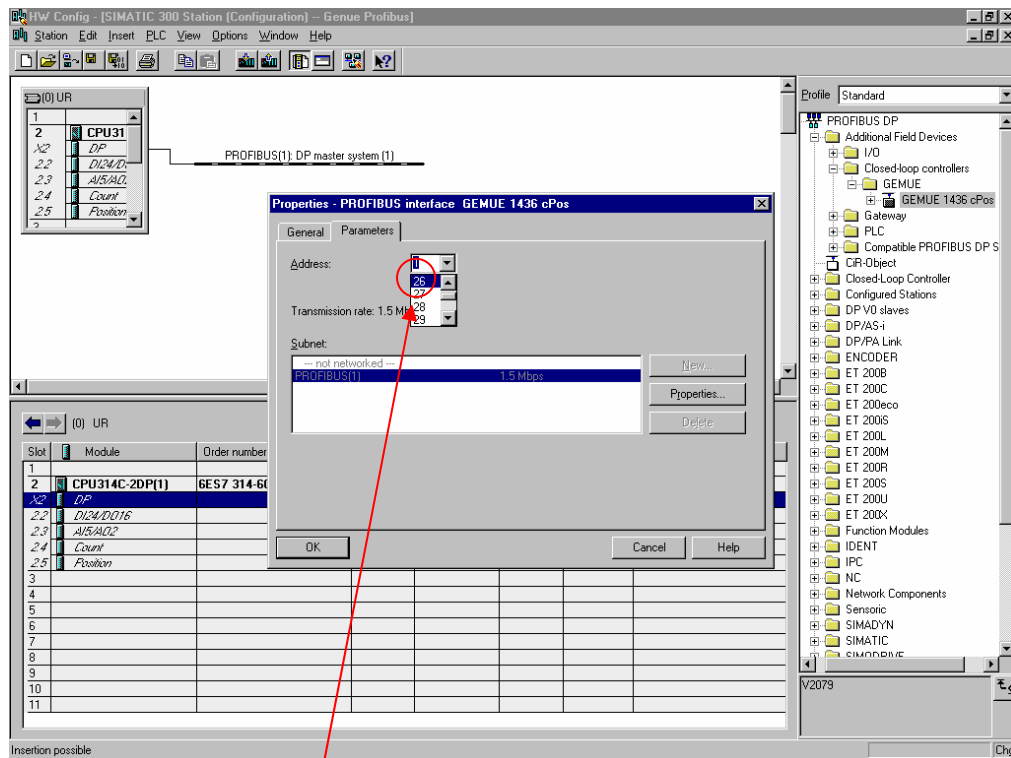


Click on "OK"

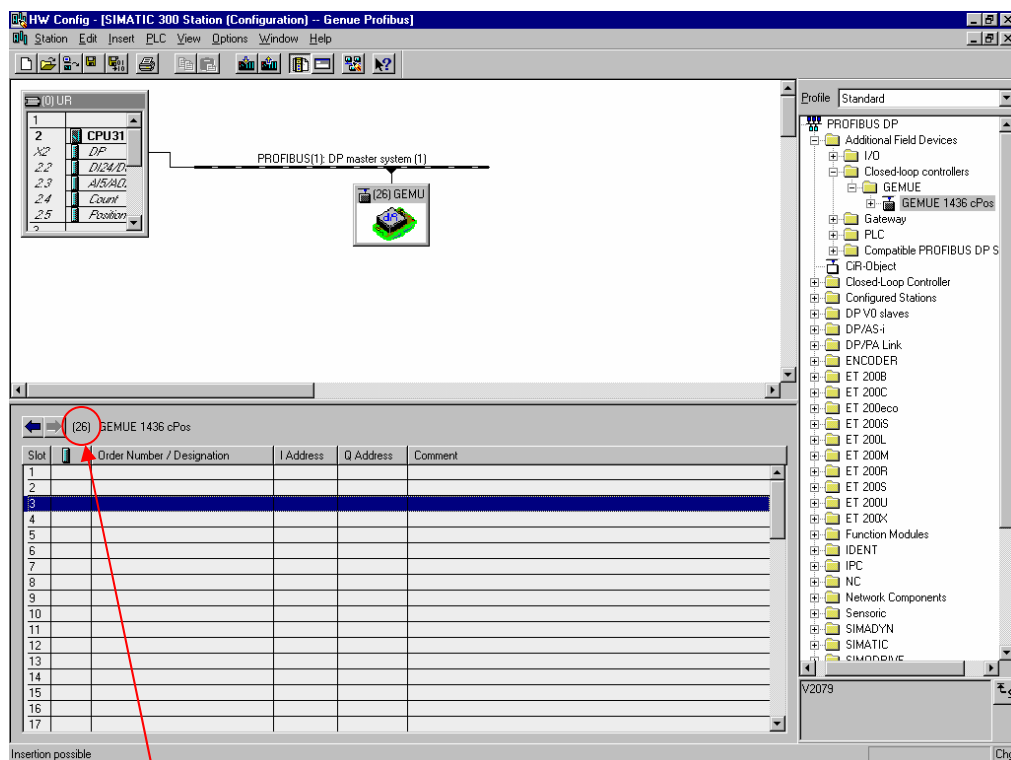


Drag selection into window

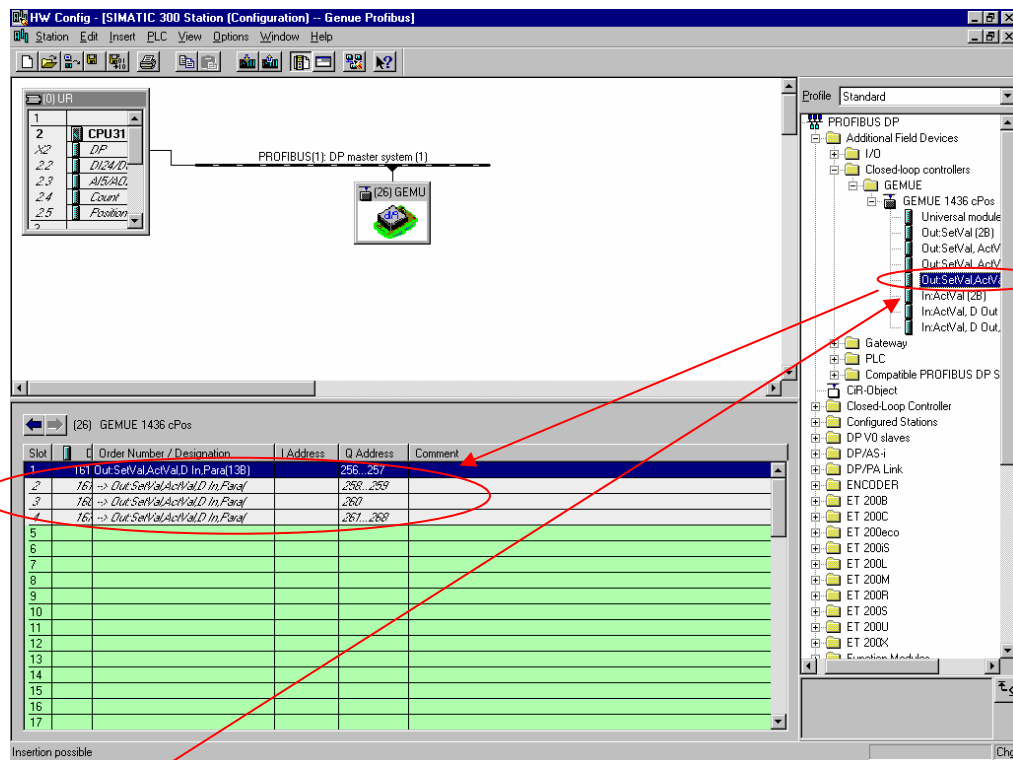




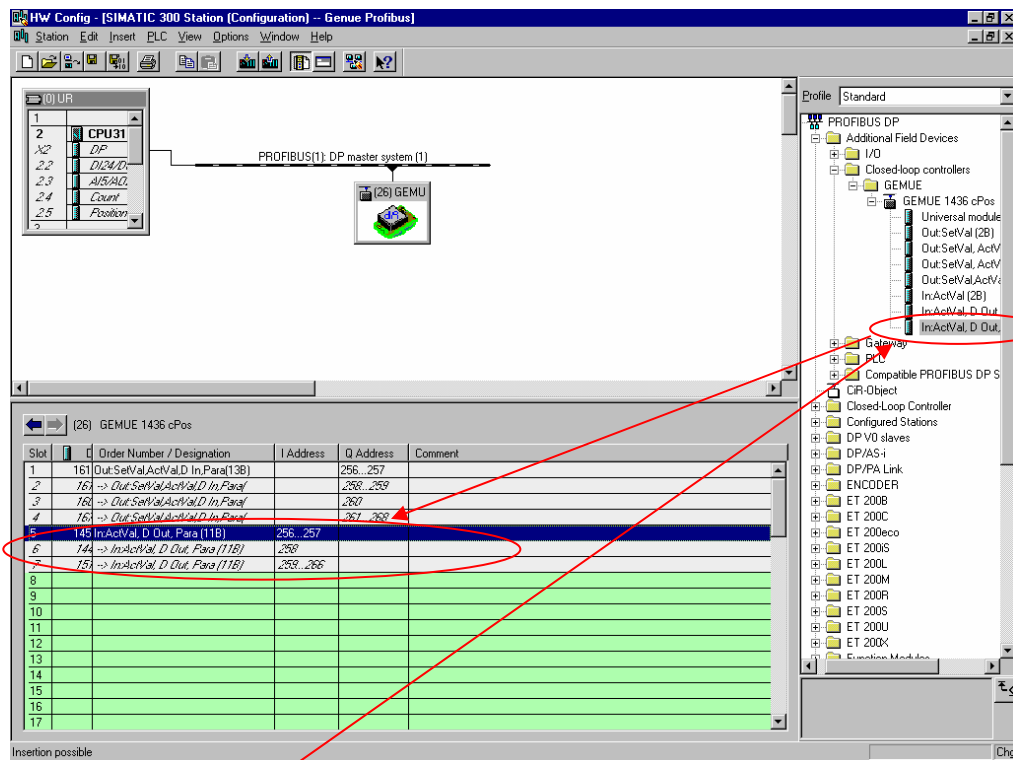
Set the Profibus address of the GEMÜ SideStep (default setting 26)



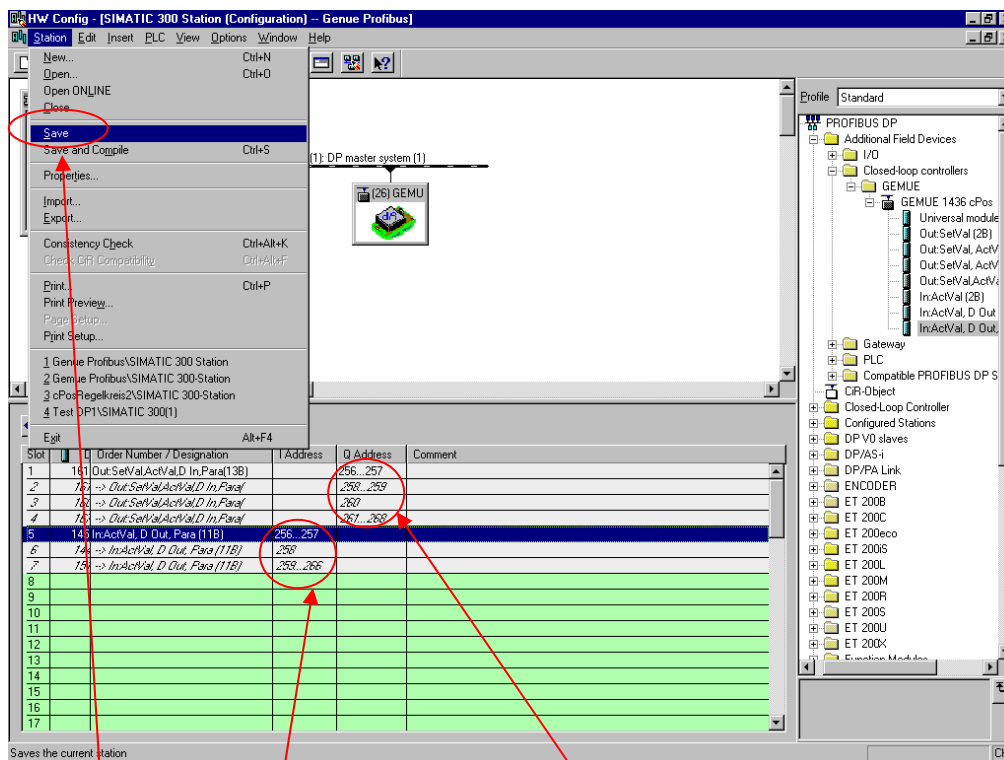
Set Profibus address (26)



Select outputs (click and drag into table)
ATTENTION! Only 1 configuration



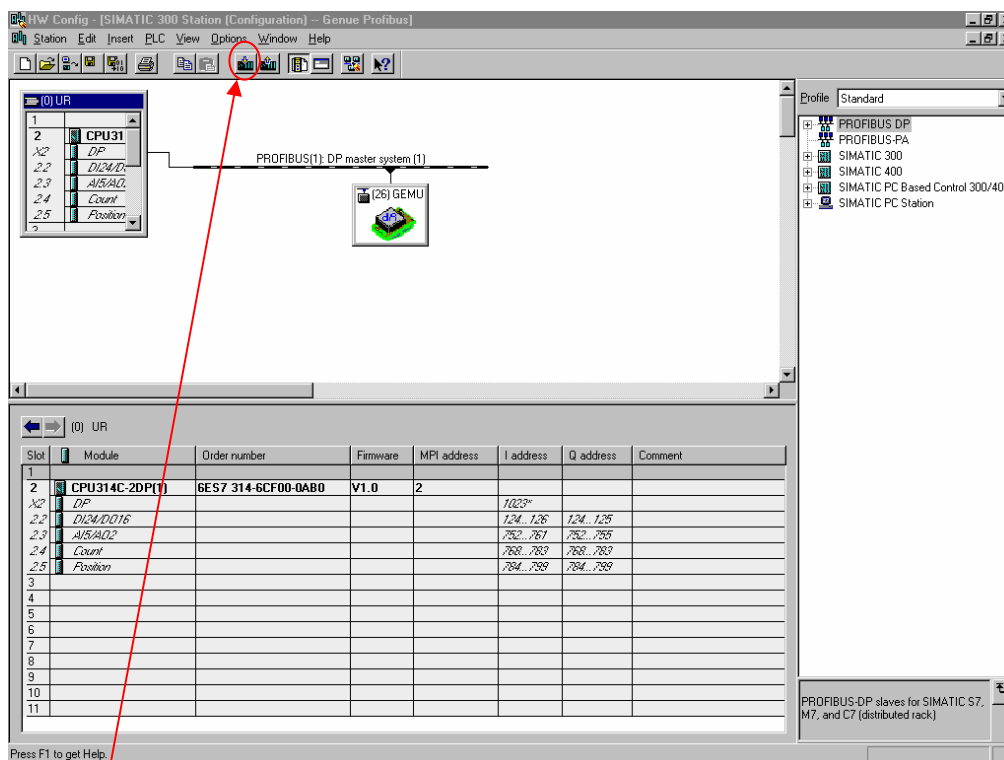
Select inputs (click and drag into table)
ATTENTION! Only 1 configuration
The GEMÜ SideStep identifies the configuration on the basis of the block length. No settings required.



Save settings

Input addresses (no action)

Output addresses (no action)



Load configuration in PLC.

The screenshot shows the 'HW Config' window for a SIMATIC 300 station. The left pane shows the hardware tree with the following components:

- 1 CPU314C-2DP(1)
- 2 DP
- 2.2 DI24xDC16
- 2.3 AI5/AO2
- 2.4 Zähler
- 2.5 Positionieren

The right pane shows the 'DP-Mastersystem (1)' with a GEMÜ slave connected. Below the hardware tree is a table with the following columns: Steckplatz, Baugruppe, Bestellnummer, Firmware, MPI-Adresse, E-Adresse, A-Adresse, and Kommentar.

Steckplatz	Baugruppe	Bestellnummer	Firmware	MPI-Adresse	E-Adresse	A-Adresse	Kommentar
1	CPU314C-2DP(1)	6ES7 314-6CG00-0AB0	V1.0	2			
2	DP				1023*		
2.2	DI24xDC16				124...126	124...125	
2.3	AI5/AO2				762...761	762...765	
2.4	Zähler				768...767	768...767	
2.5	Positionieren				768...769	768...769	

The bottom status bar indicates: Drücken Sie F1, um Hilfe zu erhalten.

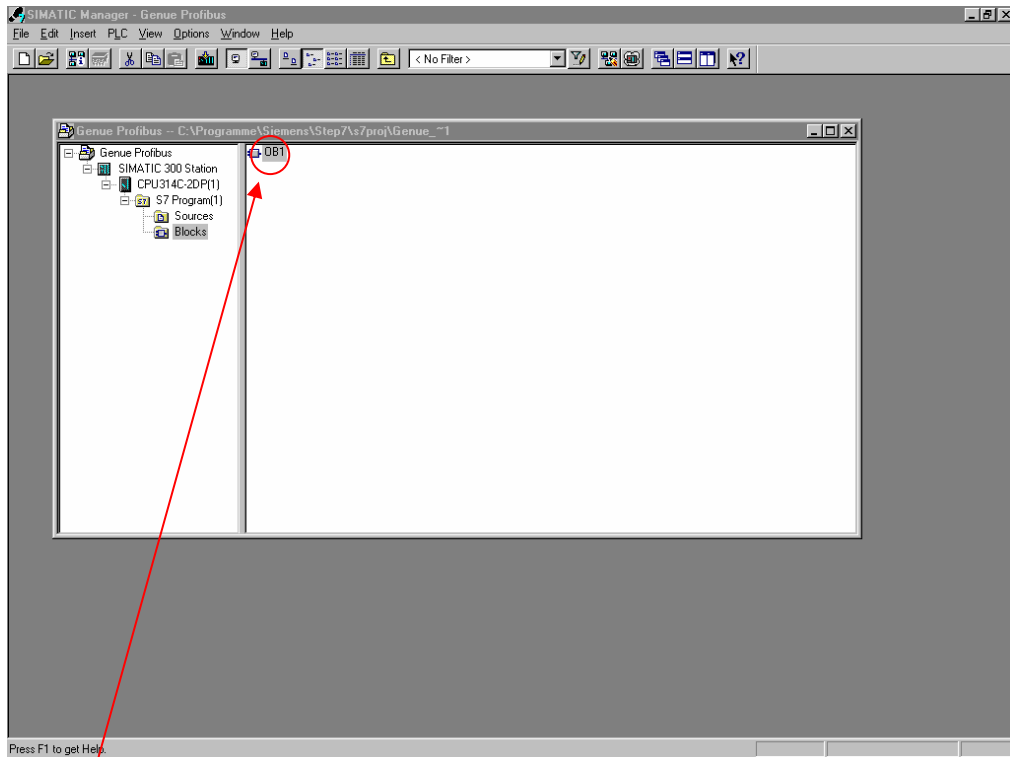
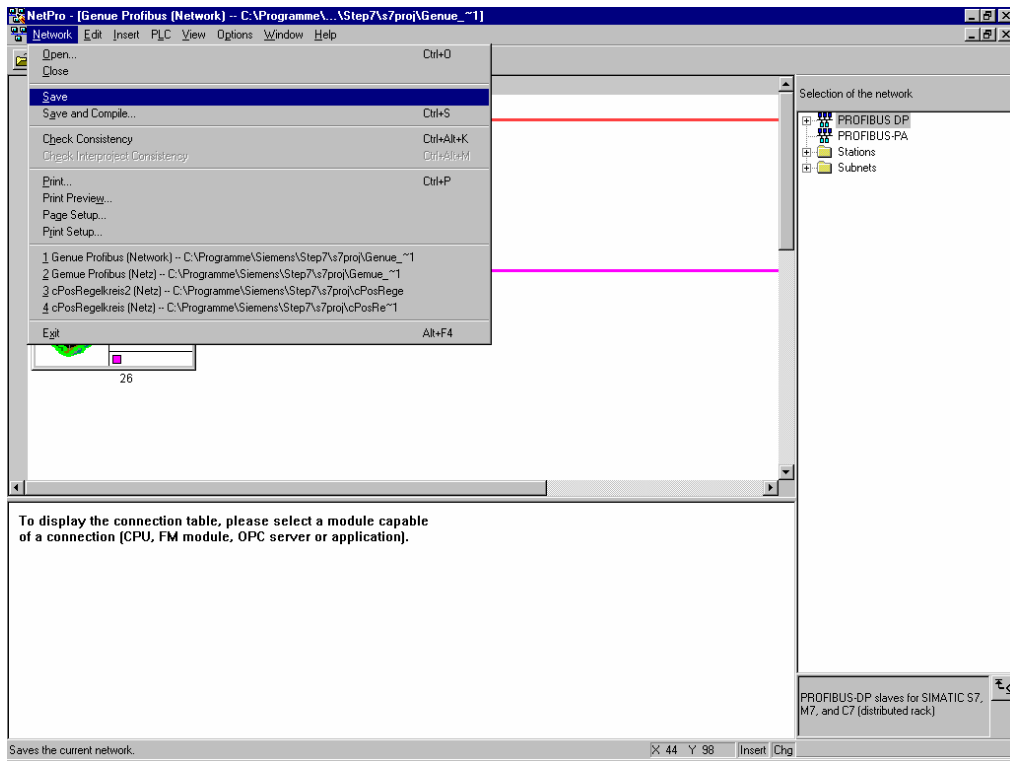
The screenshot shows the 'Network Manager' window. The left pane shows the network topology with the following components:

- MPI(1)
- MPI
- SIMATIC 300 Station
- 2 CPU 314C-2 DP
- 2 PROFIBUS(1)
- 2 PROFIBUS
- GEMÜ 1436 cPos
- 26

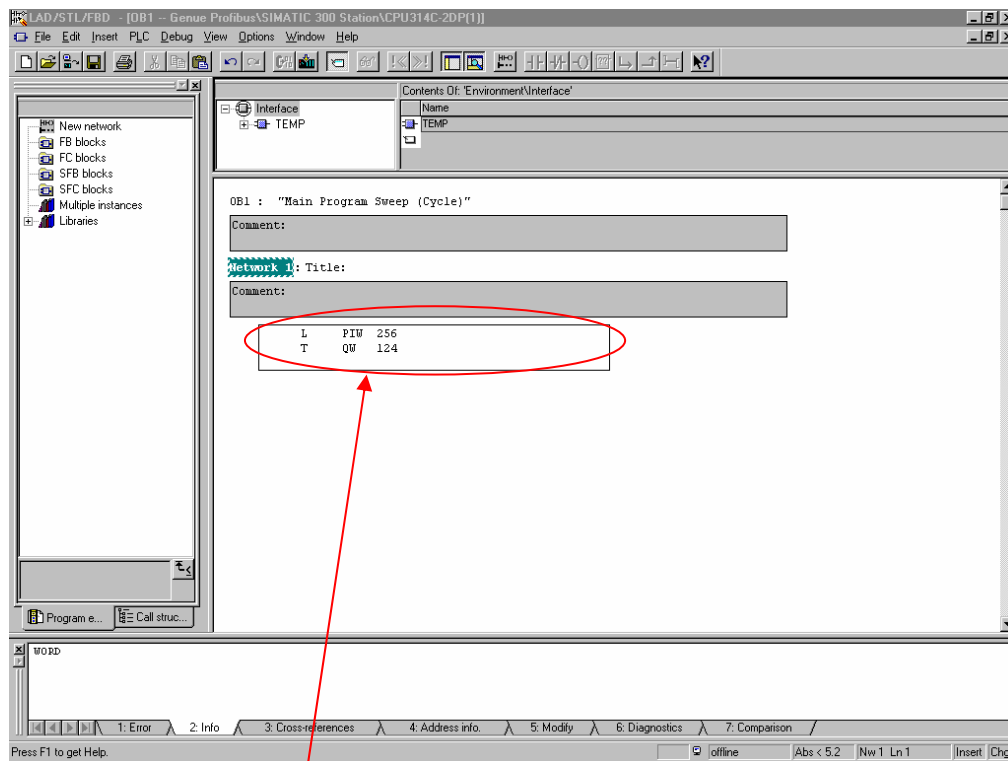
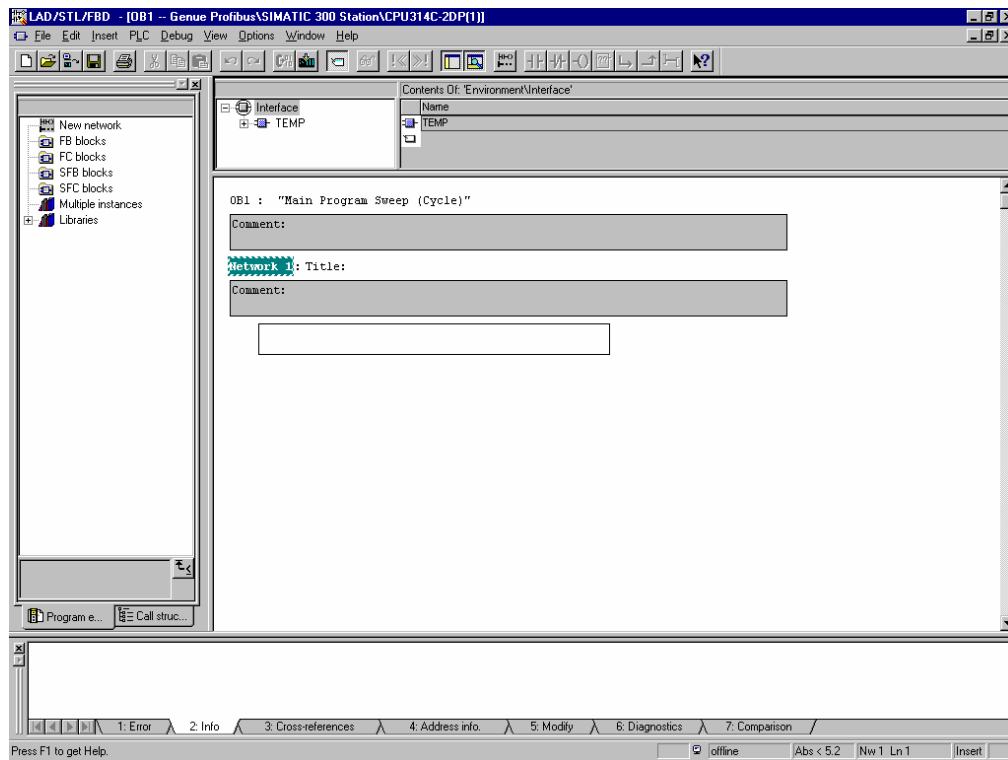
The right pane shows the 'Selection of the network' with the following options:

- PROFIBUS DP
- PROFIBUS PA
- Stations
- Subnets

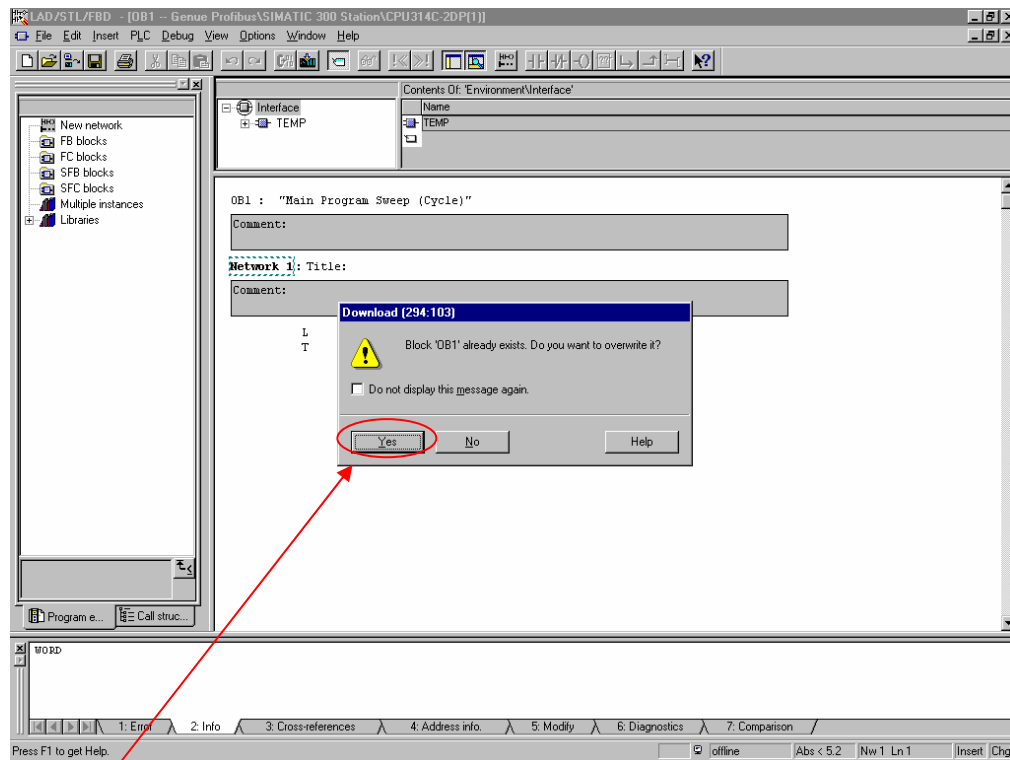
The bottom status bar indicates: Ready. The bottom right corner shows: PROFIBUS-DP slaves for SIMATIC S7, M7, and C7 (distributed rack).



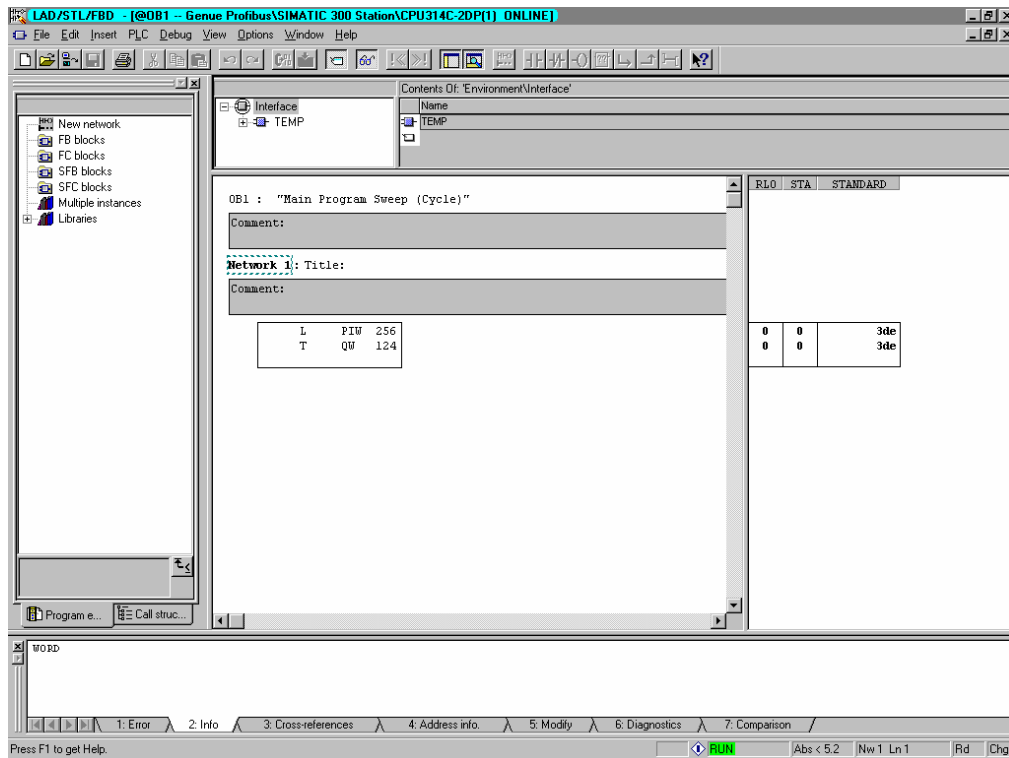
Program OB1

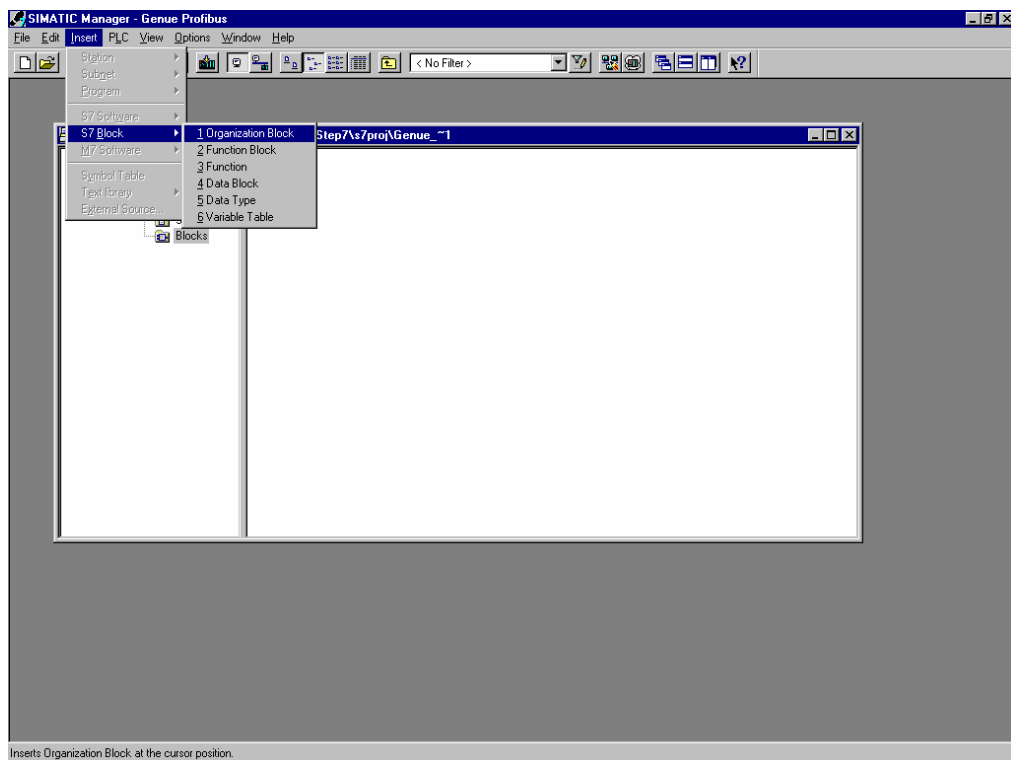
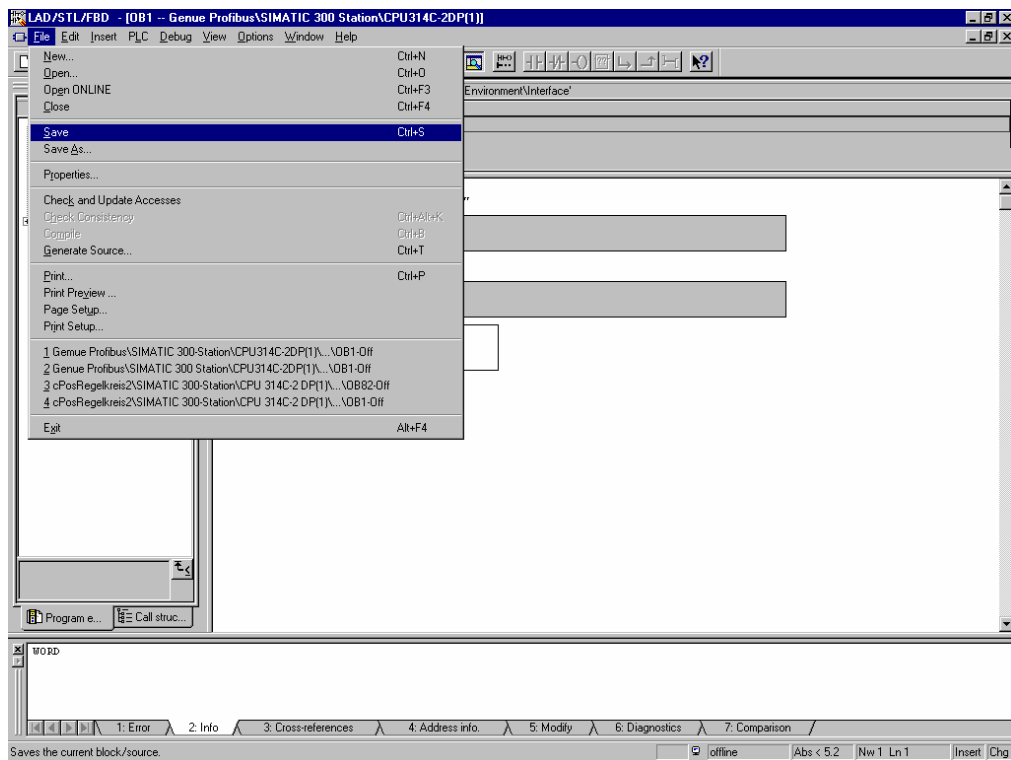


Ex. Input valve position and output to outputs.
ATTENTION! Addresses above 127 must be accessed using PEW, PEB, PAW, PAB....

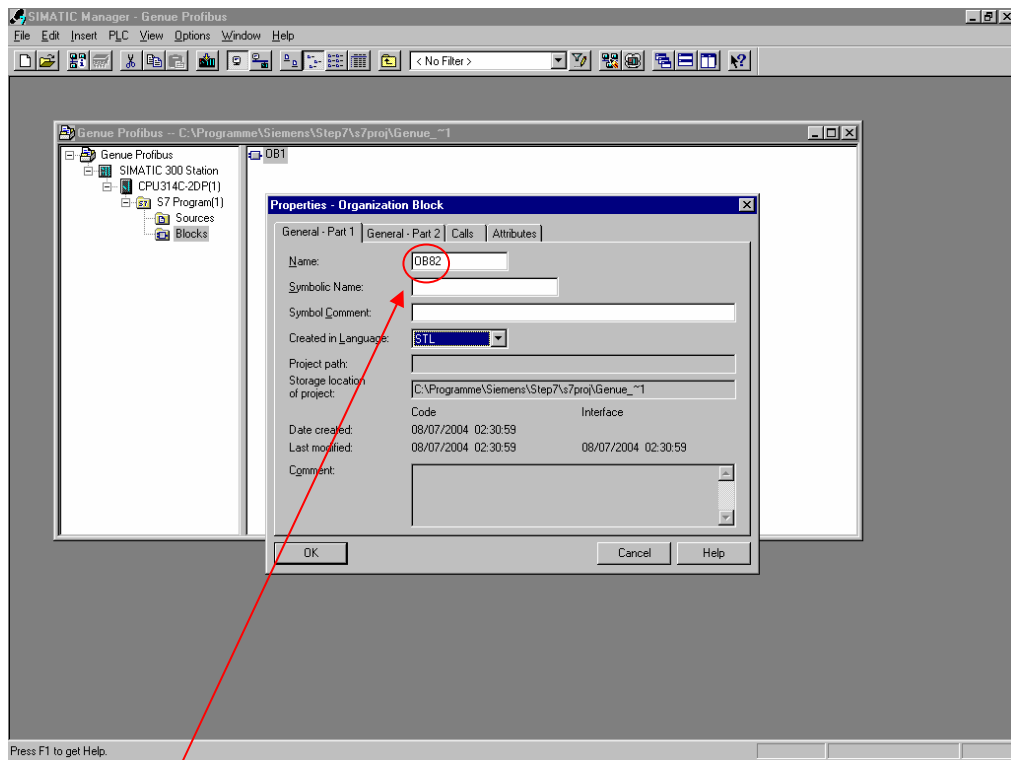


Confirm by clicking on "Yes"

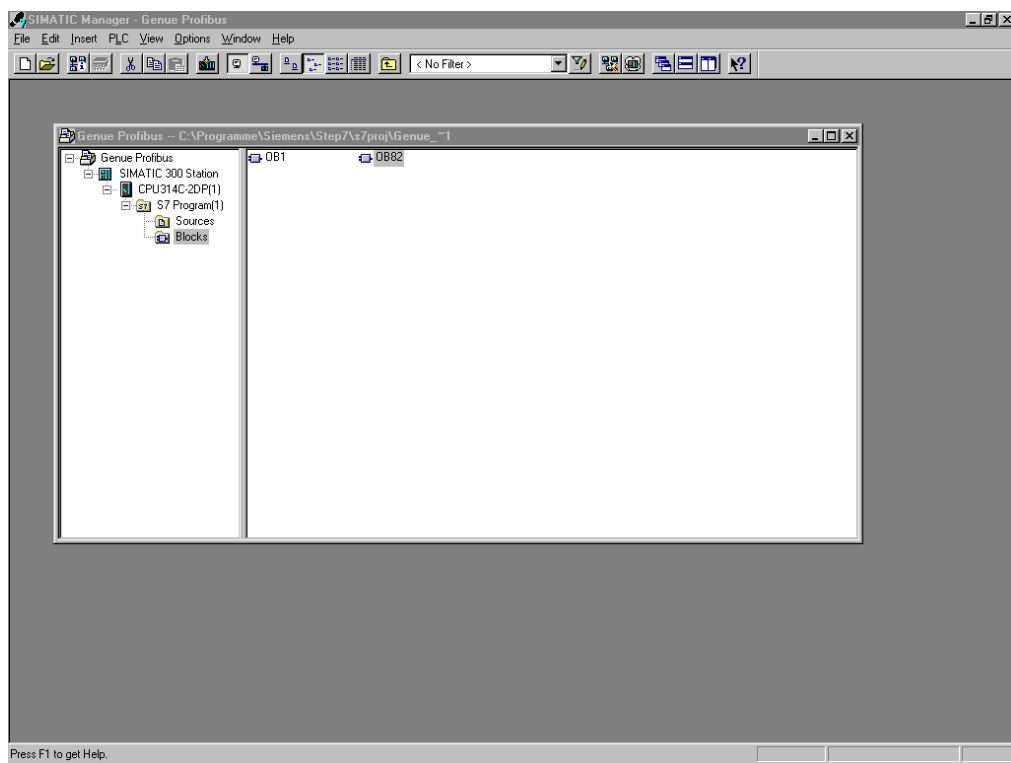


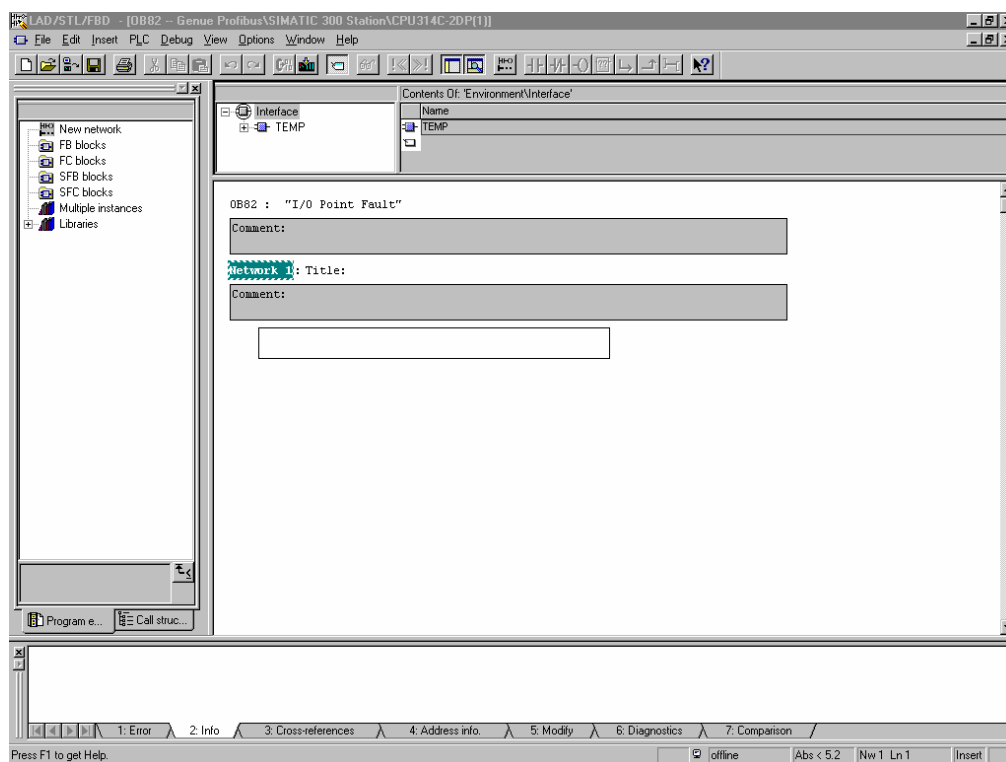


Create new OB



Errors are trapped in organisation block OB82.
ATTENTION! This operation module must be generated.





No storage of function required



ACTRONIC[®] Profibus DP Operating instructions SideStep[®] Industrial Positioner

Note concerning the EC Machinery Directive 2006/42/EC:

A Declaration of Incorporation in accordance with the EC Machinery Directive 2006/42/EC accompanies this product.

For incorporation in an installation classed as a machine:

The commissioning is prohibited until it has been determined that the machine (plant) in which this product is to be incorporated complies with the provisions of the EC Machinery Directive 2006/42/EC.

Handling, assembly and commissioning, in addition to setting and adjustment of the machine must be performed only by authorised specialist staff.



GEMÜ[®] VALVES, MEASUREMENT
AND CONTROL SYSTEMS