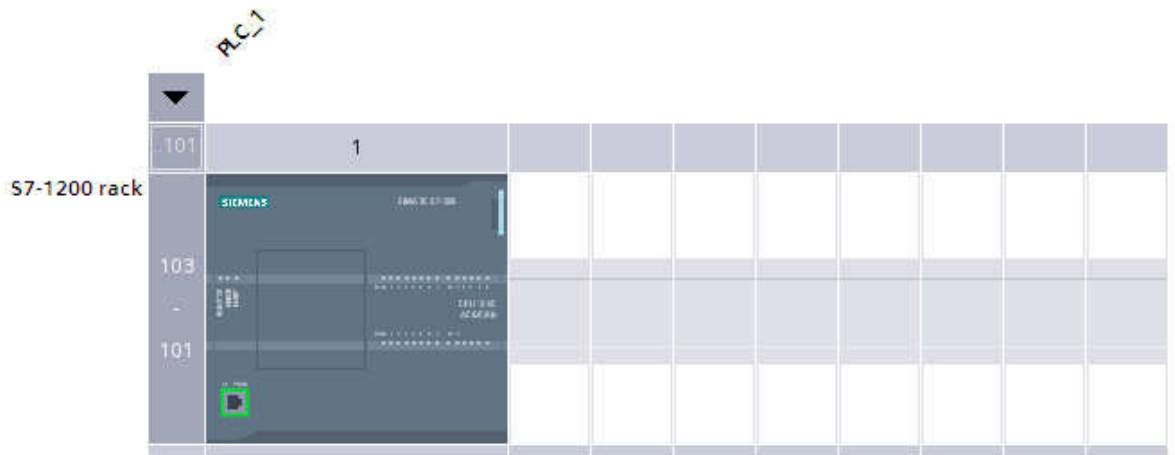


Setting up communication LOGO! ...0BA7 – S7-1200 (Step7 Basic V11)

Settings in Step7 Basic V11:

You must first create a hardware configuration in Step7 Basic V11.



Enter the IP address in the CPU properties under "PROFINET interface" and add a new subnet.

Ethernet addresses

Interface networked with

Subnet:

IP protocol

Set IP address in the project

IP address:

Subnet mask:

Use IP router

Router address:

Set IP address using a different method

PROFINET

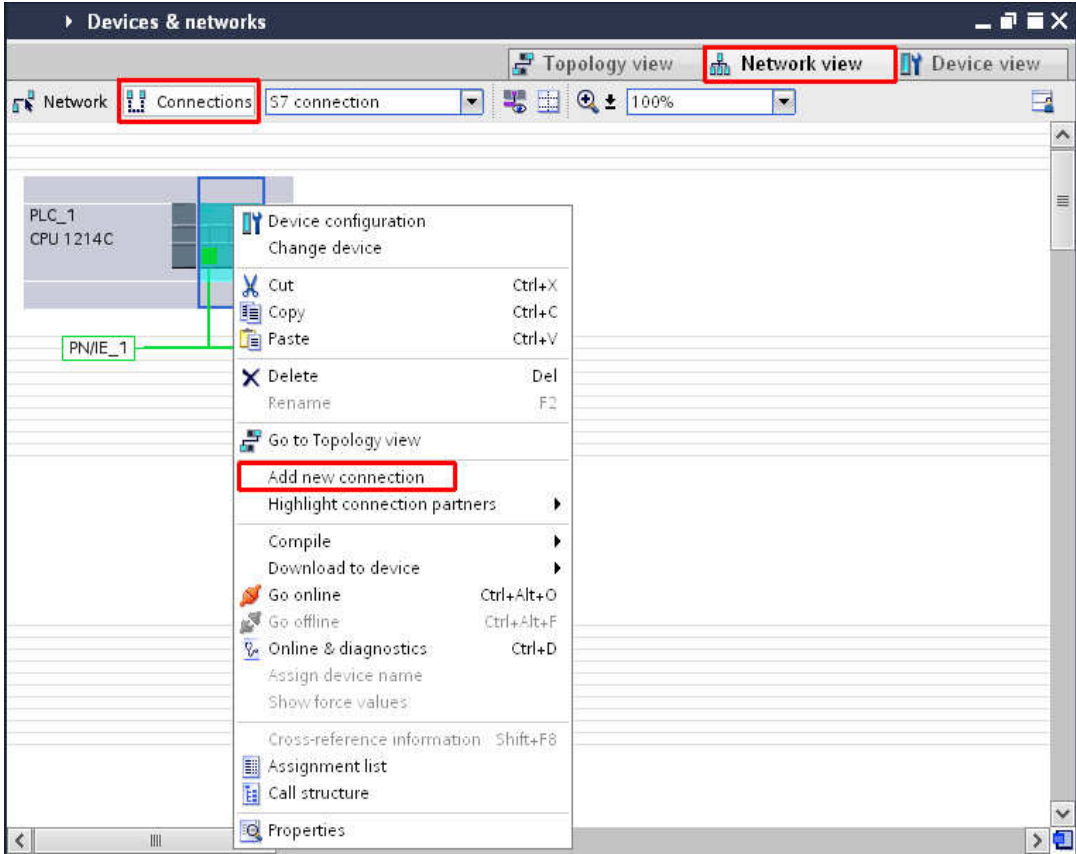
Set PROFINET device name using a different method.

PROFINET device name:

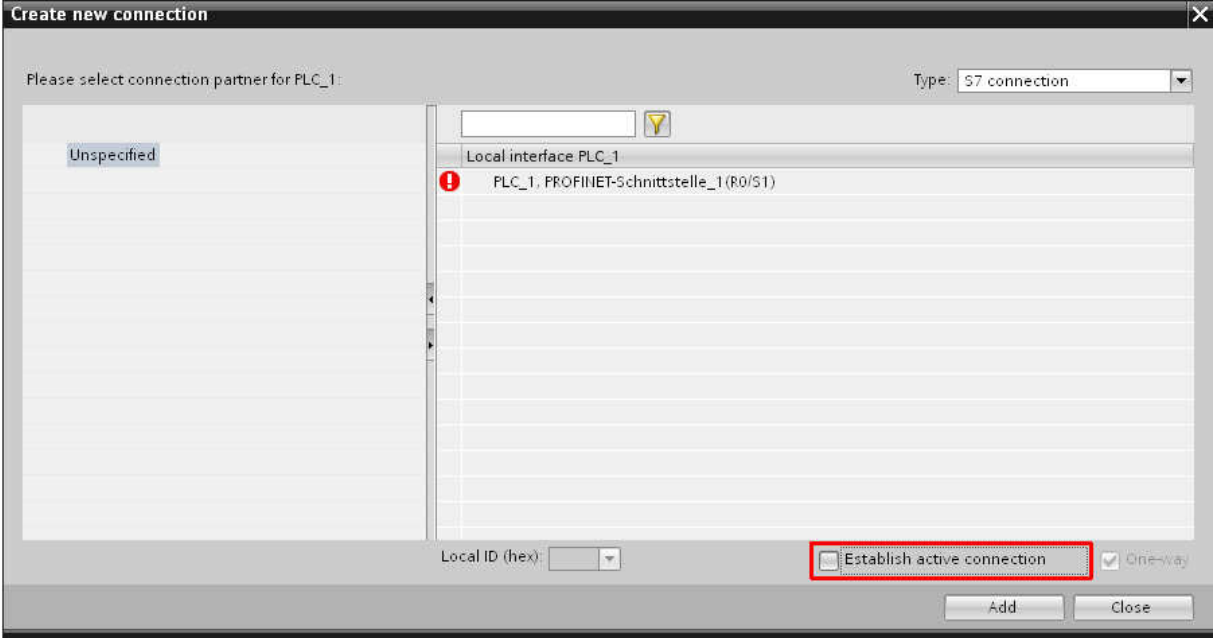
Converted name:

Device number:

Then you add a new connection in the Network view with a right-click on the device under Connections.



The Establish active connection option must be disabled when you create the new connection.



You now edit the properties in the added connection:

1. **General:** Partner end point, Partner address

General

Connection

Offline status:

Name: S7_Connection_1

Connection path

Local Partner

End point: PLC_1 LOGO! 0BA7

Interface: PLC_1, PROFINET-Schnitt Unknown

Interface type: Ethernet/IP Ethernet/IP

Subnet: PN/IE_1

Address: 192.168.0.1 192.168.0.11

Find connection path

2. **Address details:** Connection resources

Address details

Local Partner

End point: PLC_1 LOGO! 0BA7

Rack/slot: 0 1 0 0

Connection res (hex): 10 20

TSAP: 10.01 20.00

SIMATIC ACC SIMATIC ACC

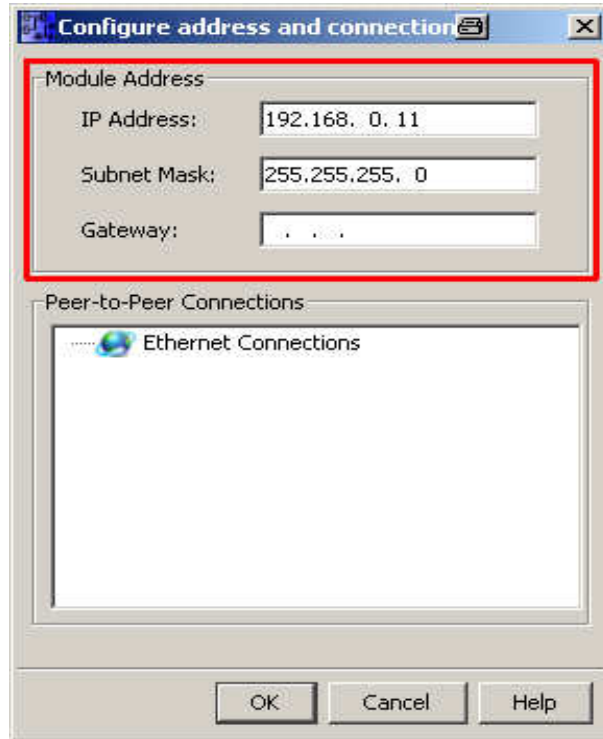
Subnet ID: 0675 - 0000 - 0001 -

Configuration of the connection is now complete and you can make the connection configuration for LOGO!.

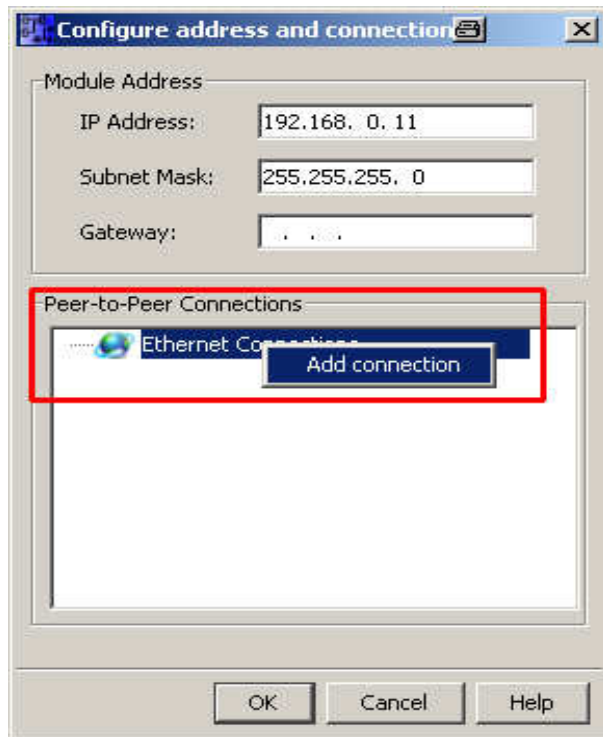
Settings in LOGO!Soft Comfort (version 7):

Configure a new connection under Tools; Ethernet Connections:

1. Enter the IP address and subnet mask of the LOGO! basic module.



2. Add a new connection with a right-click on Ethernet Connections under Peer-to-Peer connections.



3. Configure a client connection in the properties of the added connection. Enter TSAP and IP address of the S7-1200 in the remote properties.

Connection1

Client Connection: Requests data transfer between the local PLC and a remote PLC

Server Connection: Responds to connection requests from remote clients

Local Properties (Client)

TSAP:

Remote Properties (Server)

TSAP:

IP Address:

Data Transfer (Read: Local<-Remote; Write: Local->Remote)

ID	Operate	Length (Bytes)	Address (Local)	Address (Remote)
1				

Keep Alive

Enable the Keep Alive function for this connection

Keep Alive Interval: Seconds

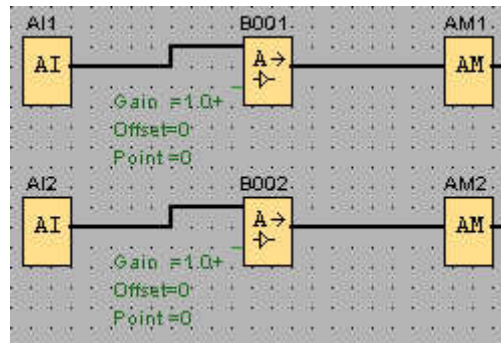
OK Cancel Help

In the data transfer table you can specify which and how many data are transferred from LOGO! to the server.

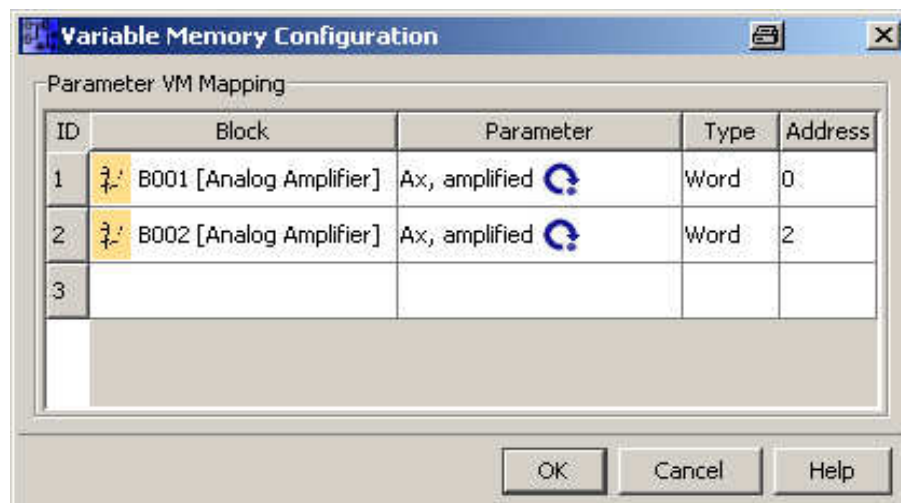
Example:

The digital inputs I1 to I6 and the analog inputs AI1 and AI2 are to be processed in the S7-1200. The S7-1200 should also be able to address the digital outputs Q1 to Q4.

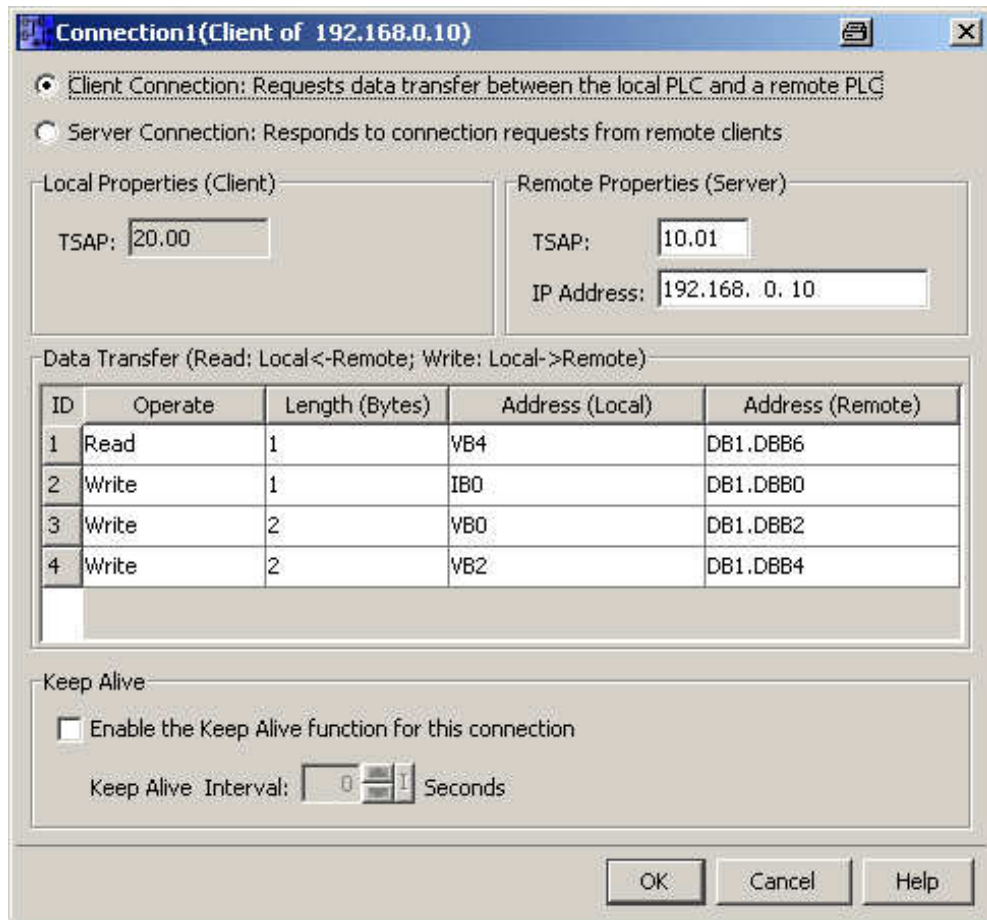
To transfer the analog input values to the S7-1200, you have to first enter them in the "Parameter-VM mapping". The analog inputs are added to the program of LOGO! for this purpose and then connected with the analog amplifier and the analog flags.



Then you open the "Parameter-VM mapping" under "Tools" and add the analog signals (Ax, amplified) of the two analog amplifiers in the table.



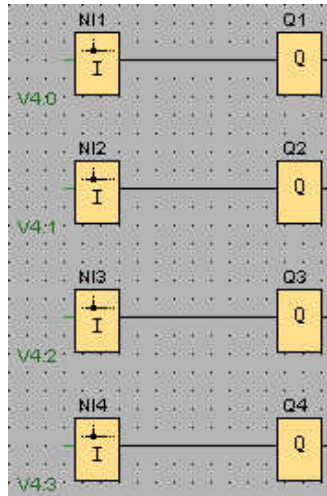
Then you define in the properties of the client connection which data are written to the S7-1200 and which data are read from it.



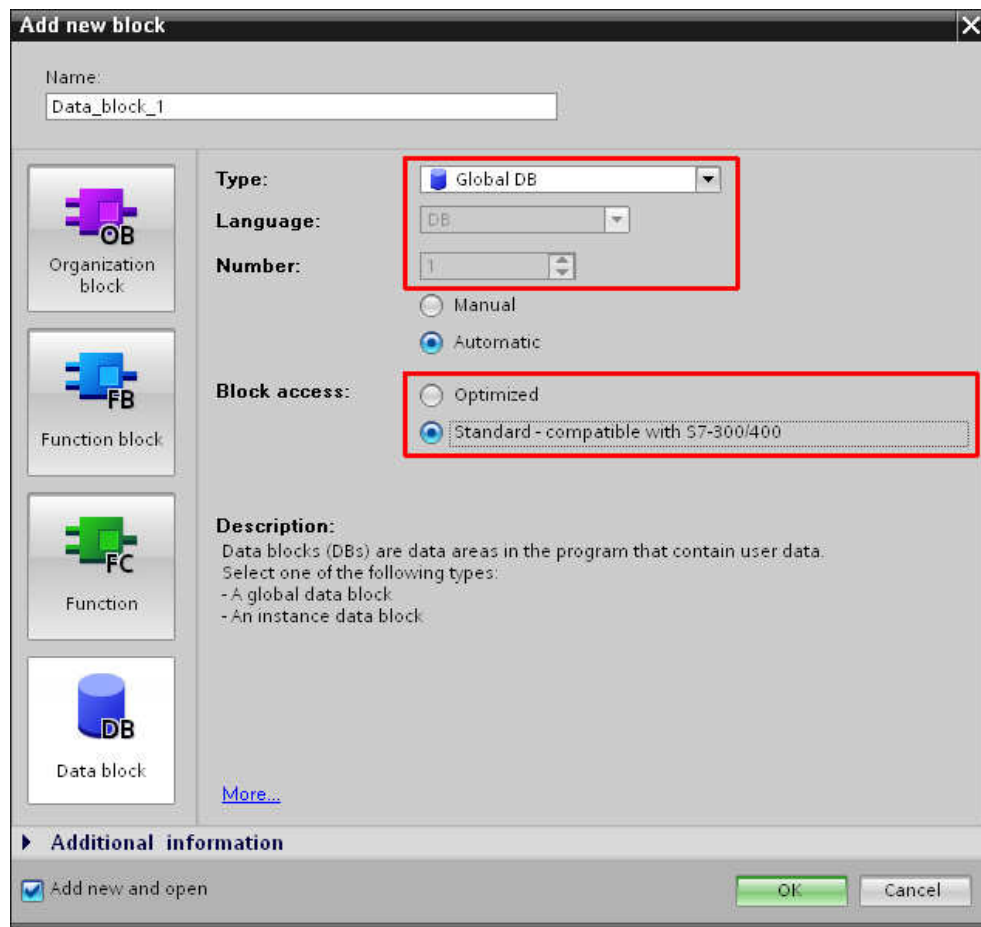
Explanation:

- Line 1: From data block 1 of the S7-1200, the data (1 byte) are read from data block byte 6 and sent to variable byte 4 of LOGO!. The outputs of LOGO! are later set from variable byte 4.
- Line 2: The input byte 0 (I1 to I8) of LOGO! is written to the data block type 0 in data block 1 of the S7-1200.
- Line 3: The data of the analog amplifier B001 from variable byte 0 of LOGO!, which carries the value of analog input AI1, is written to data block byte 2 (2 bytes).
- Line 4: The data of the analog amplifier B002 from variable byte 2 of LOGO!, which carries the value of analog input AI2, is written to data block byte 4 (2 bytes).

You must also add four network inputs in the LOGO! program and link them with outputs Q1 to Q4. You must set bits 4.0 to 4.3 in the properties of the network inputs because the data for the outputs from data block 1 of the S7-1200 are read in to variable byte 4 of LOGO! (see table for data transfer).



A data block with standard block access must be added in Step7 Basic V11 under "Program blocks".



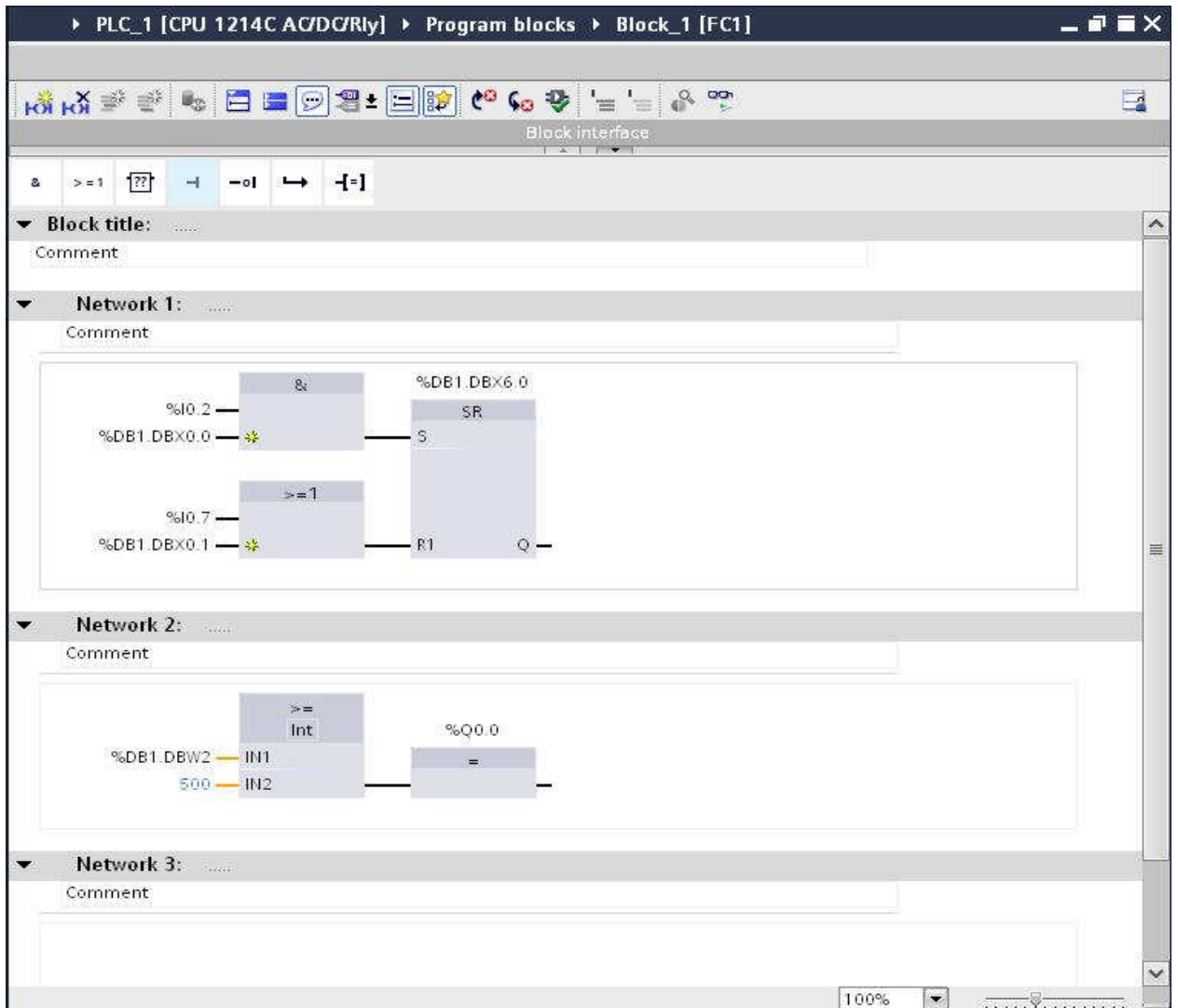
The lines according to the data transfer table have to be created in this data block.

The screenshot shows the 'Data_block_1 [DB1]' configuration window in SIMATIC Manager. The window title is 'PLC_1 [CPU 1214C AC/DC/Rly] > Program blocks > Data_block_1 [DB1]'. The table below lists the variables defined in the data block.

	Name	Data type	Offset	Start value	Retain	Visible in ...	Comment
1	Static						
2	I1	Bool	0.0	false	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
3	I2	Bool	0.1	false	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
4	I3	Bool	0.2	false	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
5	I4	Bool	0.3	false	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
6	I5	Bool	0.4	false	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
7	I6	Bool	0.5	false	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
8	AI1	Word	2.0	0	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
9	AI2	Word	4.0	0	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
10	Q1	Bool	6.0	false	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
11	Q2	Bool	6.1	false	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
12	Q3	Bool	6.2	false	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
13	Q4	Bool	6.3	false	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

You can now create a program in Step7 Basic V11. If you want to access LOGO! data or address LOGO! outputs, you only have to configure the corresponding bit or word in the data block.

Sample program:



Explanation:

- Network 1: If a 1 signal is present at input I0.2 of the S7-1200 and at input I1 of LOGO!, output Q1 of LOGO! is set. If a 1 signal is present at input I0.7 of the S7-1200 and at input I2 of LOGO!, output Q1 of LOGO! is reset.
- Network 2: The output Q0.0 of the S7-1200 is addressed if the value of the AI1 analog input of LOGO! is greater than or equal to 500 (AI1 \geq 5V).