

# SSW5/LAN

S5-PLC to Ethernet gateway adaptor  
700-750-LAN13

## User Manual

Edition 3 / 09.03.2009 / HW1 and higher



Order number of manual: 900-750-LAN13/en



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**Note:**

We have checked the content of this manual for conformity with the hardware and software described. Nevertheless, because deviations cannot be ruled out, we cannot accept any liability for complete conformity. The information in this manual is regularly updated. When using purchased products, please heed the latest version of the manual, which can be viewed in the Internet at [www.helmholz.de](http://www.helmholz.de), from where it can also be downloaded.

Our customers are important to us. We are always glad to receive suggestions for improvement and ideas.

## Changes in this document:

<b>Edition</b>	<b>Date</b>	<b>Changes</b>
1	30.7.2007	First Edition
2	10.12.2007	Included information about ports
		Added document history
		Included Auto-IP and Firewall information
2B	15.2.2008	Communication Port corrected
3	9.7.2008	Driver 1.0.8.0 + SHTools 3.53: added Devicename

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# 1 Safety Information

Please observe the safety information given for your own and other people's safety. The safety information indicates possible hazards and provides information about how you can avoid hazardous situations.

The following symbols are used in this manual.



*Caution, indicates hazards and sources of error*



*gives information*



*hazard, general or specific*



*Danger of electric shock*

## 1.1 General

The product is only used as part of a complete system.



*The operator of a machine system is responsible for observing all safety and accident prevention regulations applicable to the application in question.*



*During configuration, safety and accident prevention rules specific to the application must be observed.*



*Emergency OFF facilities according to EN 60204 / IEC 204 must remain active in all modes of the machine system. The system must not enter an undefined restart.*



*Faults occurring in the machine system that can cause damage to property or injury to persons must be prevented by additional external equipment. Such equipment must also ensure entry into a safe state in the event of a fault. Such equipment includes electromechanical safety buttons, mechanical interlocks, etc. (see EN 954-1, risk estimation).*



*Never execute or initiate safety-related functions using the operator terminal.*



*Only authorized persons must have access to the modules!*

## **1.2 Restriction of access**

The modules are open equipment and must only be installed in electrical equipment rooms, cabinets, or housings. Access to the electrical equipment rooms, barriers, or housings must only be possible using a tool or key and only permitted to personnel having received instruction or authorization. See also Chapter 0.

## **1.3 Information for the user**

This manual is addressed to users of the SSW5/LAN adaptor. It is intended for use as an installation manual and reference work by the configuring engineer.

The SSW5/LAN must be used only as a programming adaptor for connection to Siemens Simatic S5 controllers. The configuring engineer, user, and installing technician must observe the standards, safety and accident prevention rules applicable in the particular application. The operator of the automation system is responsible for observing these rules.

## **1.4 Use as intended**

The SSW5/LAN adaptor must only be used as a communication system as described in the manual.

## **1.5 Avoiding use not as intended!**

Safety-related functions must not be controlled via the SSW5/LAN adaptor.

## **1.6 Installation and Mounting**

The SSW5/LAN adaptor must be installed according to VDE 0100 IEC 364. Ambient temperature: 0 °C – 60 °C.



*Before you start installation work, all system components must be disconnected from their power source.*



*Danger of electric shock!*



*During installation, application-specific safety and accident prevention rules must be observed.*

## 2 System Overview

### 2.1 Application and function description

The SSW5/LAN adaptor is for connection of a Simatic S5 CPU to a PC over Ethernet interface. The SSW5/LAN adapter enables S5 PLCs to be programmed and parameterized via an Ethernet network.

A virtual COM port is set up during installation of the SSW5/LAN. It can then be used by programming software, such as Siemens Step 5 Version 7.2x, Deltalogic Accon programming software or other programming systems for the Simatic S5.

Use of the SSW5/LAN with visualization systems that can be connected to the S5 CPU over an COM-interface is also possible.

### 2.2 Connections

#### S5-PLC interface 15-way Sub-D connector

Pin	S5
1	Shielding
2	- RxD
3	n.c.
4	+24V
5	n.c.
6	+ TxD
7	- TxD
8	GND
9	+ RxD
10	0V (VCC GND)
11	n.c.
12	0V (VCC GND)
13	n.c.
14	n.c.
15	n.c.

### 2.3 Items supplied

SSW5/LAN

700-750-LAN13

CD with driver, SHTools and manuals

### 3 Installing a virtual COM port

The CD supplied with the SSW5/LAN contains the setup for the virtual COM port software. Run the setup and follow the instructions given. The computer must be rebooted after you have installed the software.

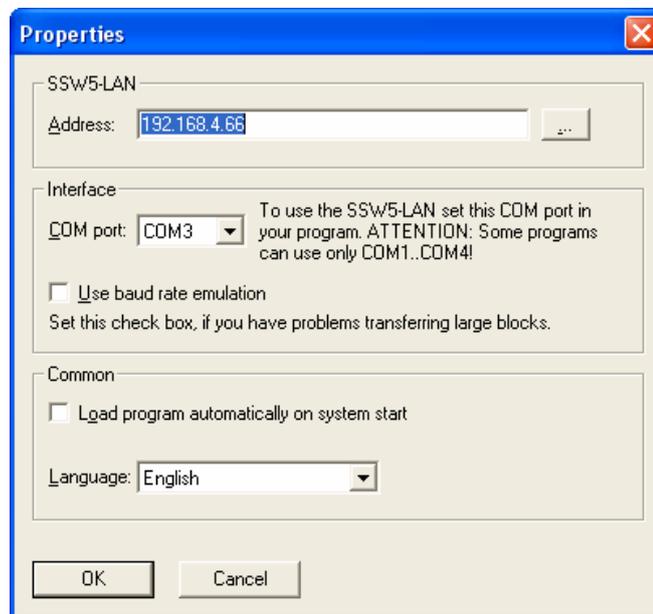
The program can be started via *“Start / Programs / Systeme Helmholtz / SSW5-LAN”*.

After you have started the program, you will see it in the info area.



#### 3.1 Settings for the virtual COM port

The COM port to be used by the SSW5/USB can be defined in the properties of the COM port driver.



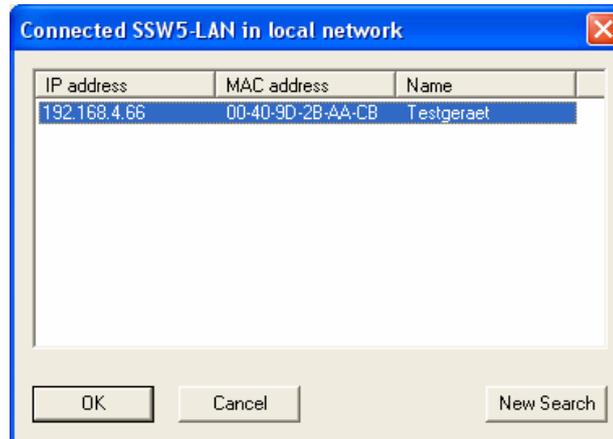
In some cases (older S5-CPU) using the option „Use baudrate emulation“ can stabilize the communication.

Using the option „Load program automatically on system start“ the driver will be loaded and started on Windows system start. Please note that the SSW5/LAN should be online upon system startup. If not it may be needed to reconnect the SSW5/LAN in the driver settings.



To find SSW5/LAN-devices the Port 2362 must not be blocked by the PC firewall. The UDP-protocol will be used.

The selection of the SSW5/LAN to be used is performed via the TCP/IP address of the device. This can be entered directly or searched for with the button.

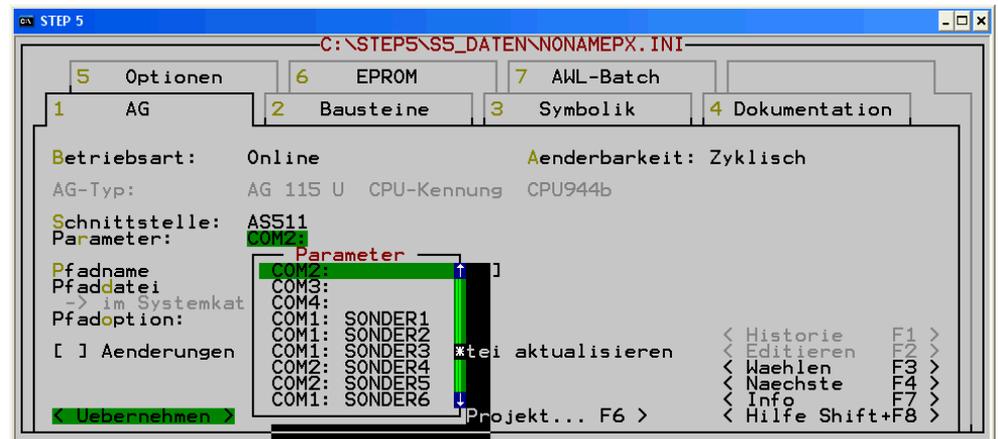


The SSW5/LAN-devices are working over the Port 2001. Do not block this port in the PC firewall.

To use the SSW5/LAN with Step 5 from Siemens, you should select a port between COM1 and COM4.



The SSW5/USB has so far only been tested with Step 5 V 7.2x!



## 4 Parametrisation of SSW5/LAN



The SSW5/LAN is delivered with DHCP switched on.



If there is no DHCP-Server, the SSW5/LAN can be reached over an Auto-IP address.

The SSW5/LAN is supplied with the DHCP switched on. If a DHCP server is installed in the network, the SSW5/LAN is automatically assigned a TCP/IP address and can be used immediately. Because the address is unknown in this case, the device search function can be used in the virtual COM port driver.

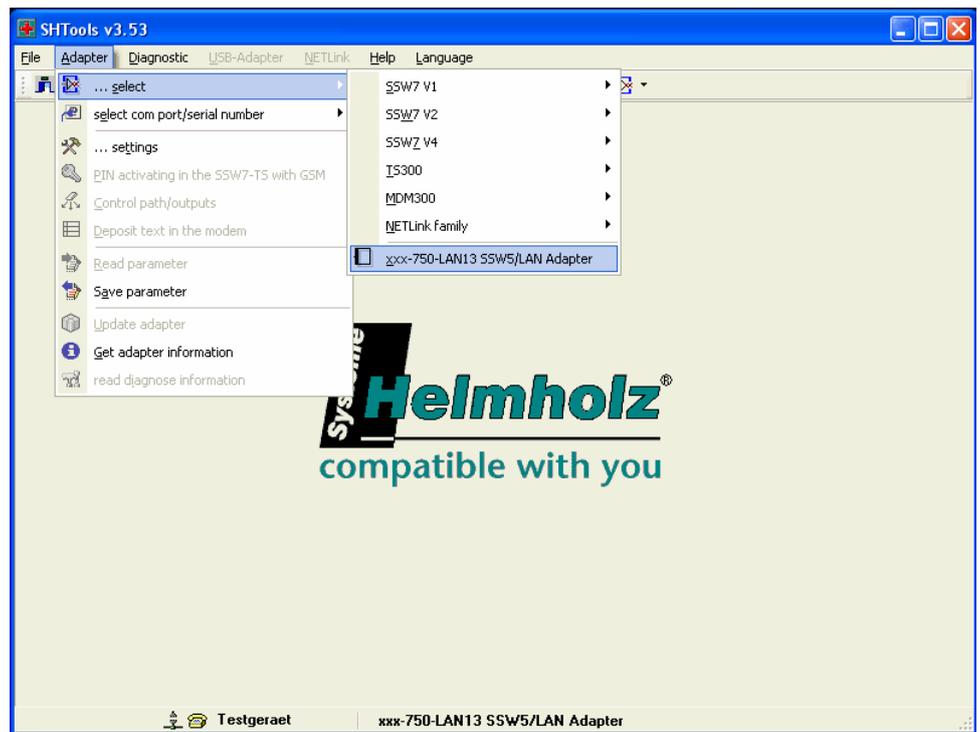
If there is no DHCP server in the network, the SSW5/LAN will use after 1-2 minutes an Auto-IP address (169.xxx.xxx.xxx).

*Attention: On some PC systems devices with Auto-IP addresses are blocked by the firewall. Switch off the firewall until parametrising the SSW5/LAN to an fixed IP address.*

If you want to assign a fixed address to the SSW5/LAN, it can be reparameterized with the supplied SHTools software.

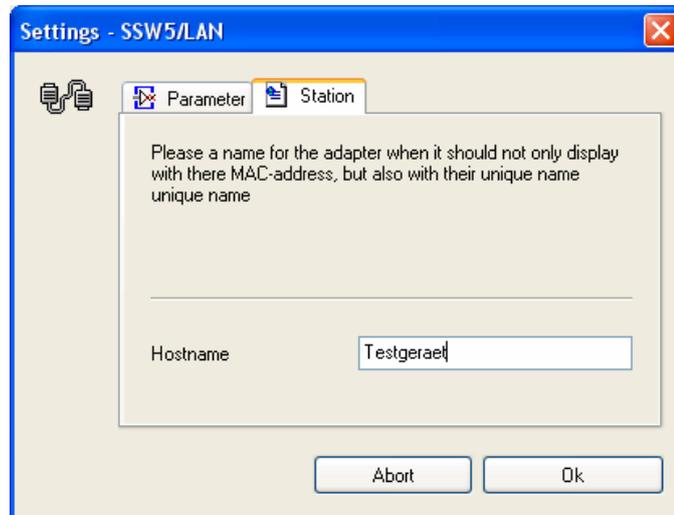
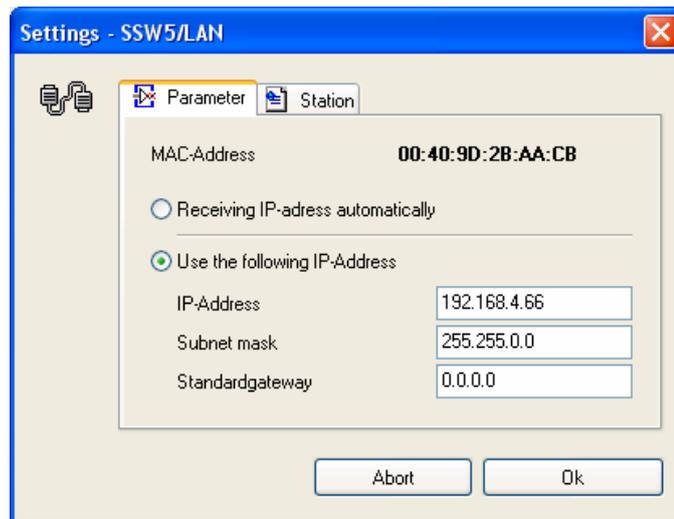
The SSW5/LAN can be assigned with a device name to differ between devices if more than one are used in a network.

After installation and software start, the SSW5/LAN can be selected via "Adapter/...select".

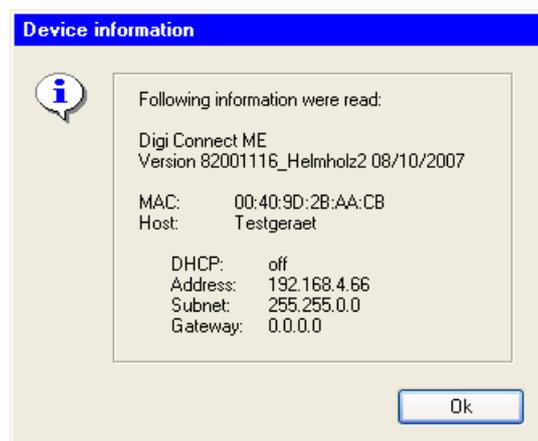


To find SSW5/LAN-devices the Port 2362 must not be blocked by the PC firewall.

The parameters of the SSW5/LAN can be changed via menu item "Adapter / Save parameter".



The device information of the SSW5/LAN can be read out with the “Get adapter information” function.



## 5 Appendix

### 5.1 Technical data

<b>Order number</b>	SSW5/LAN	700-750-LAN13
<b>Dimensions</b>	65 x 21 x 42 mm (LxWxH)	
<b>Weight</b>	Approx. 50 g	

#### S5-PLC interface

Type:	TTY, 20mA
Transmission rate:	9.6 Kbaud
Protocol:	AS 511
Pin:	15-way SUB-D connector

#### Ethernet Interface

Type:	10 Base-T / 100 Base-T; RJ45 connector
Transmission rate:	10/100 Mbit/s
Port for device discovery:	2362 (UDP)
Port for transmission:	2001 (TCP/IP)

#### Power supply

Voltage:	via S5-Interface or external 24V
Current consumption:	ca. 55 mA (typ.)

#### Permissible ambient conditions

Operating temperature:	0°C ... 60°C
Storage temperature:	-25°C ... 75°C
Degree of protection:	IP 20

#### Special features

Quality assurance:	according to ISO 9001:2000
Maintenance:	Maintenance-free (no battery, rechargeable or non-rechargeable)

## 5.2 Pin assignment

Pin	S5
1	Shielding
2	- RxD
3	n.c.
4	+24V
5	n.c.
6	+ TxD
7	- TxD
8	GND
9	+ RxD
10	0V (VCC GND)
11	n.c.
12	0V (VCC GND)
13	n.c.
14	n.c.
15	n.c.

## 5.3 Further documentation

Siemens "Step 5" manuals

## Notes