

HS100

11C300000

G2 DIN rail interface module for all TriOS G2 sensors

G2 interface with WiFi for DIN rail mounting (45 mm wide) for all digital TriOS sensors with G2 interface; WiFi interface (on/off switchable), (RS-485) Modbus RTU and Modbus TCP/IP.

Input voltage: 24 VDC ($\pm 10\%$)

Benefits

- Open Modbus RTU communication
- For all digital TriOS sensors
- Low-cost alternative to analog measuring points
- WiFi for communication via web browser



Technical specifications

ENERGY SUPPLY

Voltage supply	24 VDC ($\pm 10\%$)
Power consumption	typical: 2.5 W

SENSOR INTERFACES

Connection	1x M12 plug for TriOS G2 sensors.
Standard	RS-485
Protocol	Modbus-RTU (Default: 9600-8-N-1)

NETWORK/USB

Standard	Ethernet, WiFi IEEE 802.11b/g/n
Connection	2 x RJ-45, external WiFi antenna (SMA)
Protocol	TCP/IP, Modbus TCP (Port default: 502)
Web Interface	Yes

AMBIENT

Operating temperature	0...+40 °C
Storage temperature	-20...+70 °C
Relative air humidity	0...95 % (non-condensing)
Protection type	IP20

MECHANICS

Dimensions	45 x 99 x 119 mm
Weight	0.25 kg
Materials	Housing: polyamide (PA) Front panel: acrylic glass (PMMA)

Quick Start

Scope of delivery



HS 100

Power-on and soft reset

After powering the HS100 module it takes about 20 seconds to boot. Meanwhile the power LED will flash until the HS100 is ready for operation.

To perform a soft reset push the "WiFi" button and hold it for about 10 seconds until the power LED extinguishes. Then, release the button and the HS100 will reboot.

Factory defaults

To restore the factory default settings push the "WiFi" button during system boot. The power LED will light up permanently. Hold the button for about 10 seconds until the LED start to flash. Then, you may release the button and the HS100 restores the factory default settings. This process may take about 2 minutes.

WiFi and WPS

The buttons "WiFi" and "WPS" control the WiFi and WPS functionality. To enable WiFi push the "WiFi" button and wait for the LED next to it to light up.

Now, you may connect your device to the WiFi with the SSID: HS100-<serial number>. If you are asked for the WiFi key type "12345678".

To connect to the WiFi using WPS push the "WPS" button. The LED next to the button starts to flash. Push the "WPS" button on your device and wait a few seconds for the connection to establish.

Probes

The HS100 is compatible with every TriOS G2 probe. Just connect the probe to the M12 connector of the HS100 module.

IMPORTANT: Make sure the probe is setup for RS-485 Modbus RTU serial interface protocol operation in the peripheral settings before connecting it to the M12 connector of the HS100 module.

PC / PLC / SPS

Either via one of the two Ethernet RJ45 connectors or via WiFi you may connect a PC / PLC / SPS to the HS100 module.

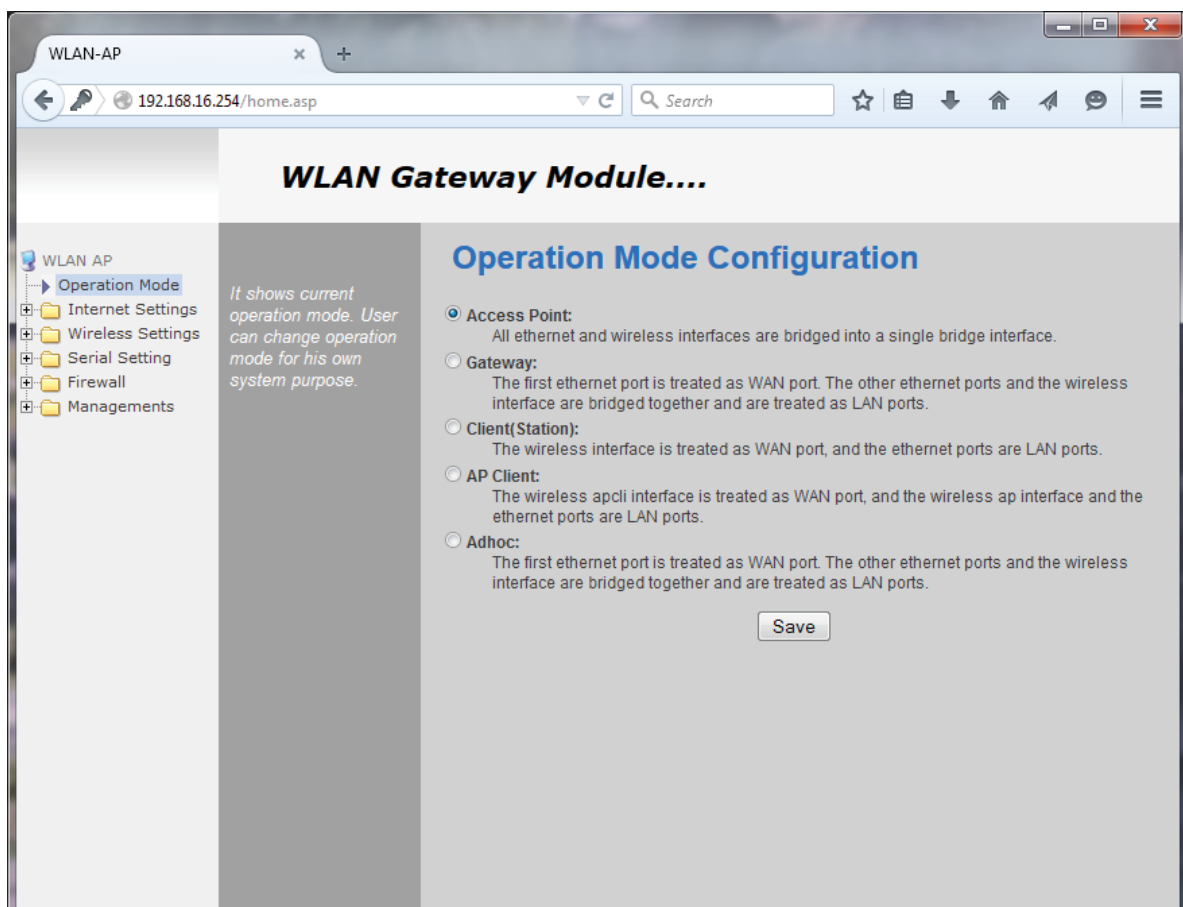
By default the HS100 automatically assigns each client an IP via DHCP. Thus, make sure your PC / PLC / SPS is configured for automatic IP assignment.

ATTENTION: Before connecting the HS100 module to a network with existing DHCP server (i.e. your company network) deactivate the DHCP server running on the HS100 module.

Company network

To connect the HS100 module to your company network you have to deactivate the DHCP server running on the HS100 module. Please follow these steps to configure the HS100 module:

1. Connect the HS100 to your laptop or PC via either Ethernet or WiFi.
The WiFi key is: 12345678.
2. Open the following link in a web browser: <http://192.168.77.254/>
3. The login data is as follow:
user name: admin
password: admin
4. Make sure the option "Access Point" is activated on the "Operation Mode" page.



To connect the HS100 module to an existing WiFi choose the option "Client (Station)". Details on how to establish a connection to an existing WiFi can be found in the WizNet user manual.

5. Browse to "Internet Settings" -> "LAN" and deactivate the "DHCP Server".
6. Now, the HS100 is ready to be connected to your company network.

Modbus TCP

To interface a probe via Modbus TCP setup your Modbus client software using the following settings:

- Protocol: Modbus TCP
- Server IP: 192.168.77.254
- Server Port: 502

The slave address depends on the probe being used. See the probes user manual for more information about the slave address. The following list shows some typical addresses that are setup by factory:

- OPUS / VIPER: 1
- LISA UV / LISA color: 2

HINT: If you are using the HS100 with an existing network (i.e. a company network), ask your network administrator for the IP of the HS100.

HS100 Network

A HS100 network consists of several HS100 modules being interconnected via the ethernet connectors. With that, you may access all of your probes by using only one HS100 module as a gateway.

To setup a HS100 network the network settings of each HS100 module have to be altered.

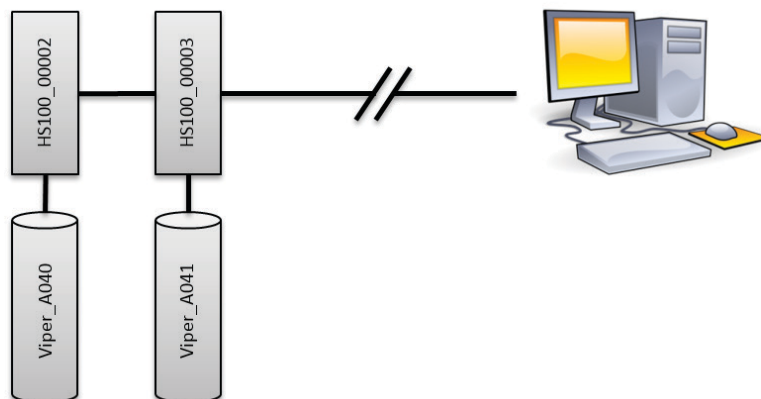
HINT: Ask your network administrator for help.

- One HS100 module keeps the factory default settings. This will be the gateway.
- With each other HS100 module alter the network setting as follows:
 - Assign a unique static IP. Best practice is to count down the preset IP, such that the IP 192.168.77.253 is assigned to the first module, the IP 192.168.77.252 is assigned to the next module and so on.
 - Deactivate the DHCP server.

Details on how to alter the network settings can be found in the WizNet user manual.

Example:

This is a simple example of a HS100 network consisting of two HS100 modules and two probes.



Composition:

- A PC is connected via either Ethernet or WiFi to the HS100-00003.
- The HS100_00002 and the HS100_00003 interconnected using a typical network cable.
- The Viper_A040 is connected to the HS100_00002 and the Viper_A041 is connected to the HS100_00003.

HS100_00002:

- The HS100_00002 is configured using the factory default settings, that is:
 - IP: 192.168.77.254
 - DHCP server activated.

HS100_00003:

- The network configuration of the HS100_00003 is altered as follows:
 - IP: 192.168.77.253
 - DHCP server deactivated.

With a PC you may access the probes either via their web interfaces using a web browser or via a Modbus TCP client software:

- Web-Interface:
 - Viper_A040:
URL: http://VIPER_A040/
 - Viper_A041:
URL: http://VIPER_A041/
- Modbus TCP Client:
 - Viper_A040:
Server: 192.168.77.254 (HS100_00002)
Port: 502
 - Viper_A041:
Server: 192.168.77.253 (HS100_00003)
Port: 502