## ENG

## VHT4510 ETHERNET

**TCP/IP PROTOCOL v0 ANNEX** 

## PROTOCOL

The VHT4510 internally includes a serial-to-Ethernet gateway from the manufacturer Lantronix, model XPort. Ethernet communication is carried out via a client-server TCP/IP protocol. The VHT4510 acts as the server, and a remote PC (or another device with the same functionality) acts as the client.

- The frames consist of an ASCII character string.
- All frames must be terminated with an end-of-frame character (CR = Carriage Return = 0x0D).
- The total number of characters in the read request frame is: 2 characters + 1 carriage return character.
- The total number of characters in the returned frame is: 11 characters + 1 carriage return character.
- · There must be a minimum time between two read requests of 1 second.
- Local Port = 10001 must be used.
- Default IP address: 192.1.1.254 (see section on changing the IP address).

If the VHT4510 has no temperature sensor connected, it displays the value --.-°C, and likewise transmits this value via Ethernet communication when a read request is made. Similarly, when no relative humidity sensor is connected, the value --.-% is displayed, and this same value will be sent via communication.

## FRAME DESCRIPTION

## DATA REQUEST TO THE DISPLAY:

	Code	End of frame
Characters	РТ	Carriage retunr
ASCII	80 84	13
Hexadecimal	50 54	OD

## **DISPLAY RESPONSE:**

	Code	Temperature	Espace	Humidity	End of frame
Characters	РТ	tt,t		hh,h	Carriage retunr
ASCII	80 84		32		13
Hexadecimal	50 54		20		0D

#### EXAMPLE

Average temperature and relative humidity (equivalent to the value displayed): 23.8°C temperature and 47.5% relative humidity

	Code	Temperature	Espace	Humidity	End of frame
Characters	РТ	23,8		47,5	Carriage retunr
ASCII	80 84	50 51 44 56	32	52 55 44 53	13
Hexadecimal	50 54	32 33 2C 38	20	34 37 2C 35	OD

## **IP ADDRESS ASSIGNMENT**

## Example of IP address assignment

The VHT4510-Ethernet is supplied from the factory with the IP address: 192.1.1.254. The end user must edit this IP address to communicate with the VHT4510-Ethernet within their own network. First, download the DeviceInstaller utility from the manufacturer Lantronix:

Lantronix general website: www.lantronix.com

Specific webpage for the DeviceInstaller utility: http://www.lantronix.com/device-networking/utilities-tools/device-installer.html

Install the program according to the manufacturer's instructions. Connect the VHT4510 to the Ethernet network and power the device if not done previously. Next, run the DeviceInstaller.exe utility and click the Search button. If all steps have been followed correctly, you will see a screen similar to this one:

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The IP address corresponding to the Local Area Connection (192.168.0.132 in this example) will be different in each case. Now, select the XPort device from the expandable tree on the left. You will see a screen similar to this:

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## Click on Assign IP. The following screen will appear:



## Click Next >. You will see a screen similar to this one:

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# Now, enter the new address, for example 192.168.0.240:

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	<u></u> at	Ind field . Gent

#### Click Next > and then click Assign.



## Click Finish.

You will now see that the IP address of the XPort device has been updated to the desired value.



You can now close the DeviceInstaller.exe program and operate the VHT4510-Ethernet as usual. You can repeat these steps in the future whenever you need to assign a new IP address to the device.

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All dimensions and sizes are approximate. Specifications and prices are subject to change without notice.

## **ESP**

# VHT4510 ETHERNET

ANEXO PROTOCOLO TCP/IP v2

## PROTOCOLO

El VHT4510 dispone internamente de una pasarela serie-ethernet del fabricante Lantronix, modelo XPort. La comunicación Ethernet se realiza por medio de un protocolo TCP/IP cliente-servidor. El VHT4510 actúa como servidor y un PC remoto (u otro dispositivo con la misma funcionalidad) actúa como cliente.

- Las tramas consisten en una cadena de caracteres ASCII.
- Todas las tramas deben estar terminadas con un carácter de fin trama (CR = Retorno de Carro = 0x0D).
- El número total de caracteres de la trama de petición de lectura es: 2 caracteres + 1 carácter de retorno de carro.
- El número total de caracteres de la trama devuelta es: 11 caracteres + 1 carácter de retorno de carro.
- Debe existir un tiempo mínimo entre dos peticiones de lectura de 1s.
- Se debe utilizar el Local Port = 10001
- Dirección IP por defecto 192.1.1.254 (ver apartado cambio de dirección IP)

Si el VHT4510 no tiene conectado ningún sensor de temperatura, entonces muestra por display el valor --.-°C, e igualmente transmite este valor por la comunicación Ethernet cuando hay una petición de lectura. Del mismo modo, cuando no se tiene conectado ningún sensor de humedad relativa se visualiza el valor --.-% y este mismo valor será enviado por la comunicación.

## **DESCRIPCIÓN DE TRAMAS**

## PETICIÓN DE DATOS AL VISUALIZADOR:

	Código	Fin trama
Caracteres	РТ	Retorno carro
ASCII	80 84	13
Hexadecimal	50 54	OD

## **RESPUESTA DEL VISUALIZADOR**

	Código	Temperatura	Espacio	Humedad	Fin trama
Caracteres	РТ	tt,t		hh,h	Retorno carro
ASCII	80 84		32		13
Hexadecimal	50 54		20		0D

#### **EJEMPLO**

Media de las temperaturas y humedades relativas (equivale al valor visualizado en display): 23,8°C de temperatura y 47,5% de humedad relativa

	Código	Temperatura	Espacio	Humedad	Fin trama
Caracteres	РТ	23,8		47,5	Retorno carro
ASCII	80 84	50 51 44 56	32	52 55 44 53	13
Hexadecimal	50 54	32 33 2C 38	20	34 37 2C 35	0D

## ASIGNACIÓN DE LA DIRECCIÓN IP

#### Ejemplo de asignación de la dirección IP

El VHT4510-Ethernet se suministra de fábrica con la dirección IP: 192.1.1.254. El usuario final debe editar esta dirección IP para poder comunicarse con el VHT4510-Ethernet dentro de su propia red. En primer lugar se debe descargar la utilidad DeviceInstaller del fabricante Lantronix:

Web general de Lantronix: www.lantronix.com

Web específica de la utilidad DeviceInstaller: http://www.lantronix.com/device-networking/utilities-tools/device-installer.html

Instale el programa según las instrucciones del propio fabricante. Conecte el VHT4510 a la red Ethernet y alimente el equipo si no lo había hecho previamente. Seguidamente arranque la utilidad DeviceInstaller.exe y pulse en el botón Search. Si todos los pasos han sido correctos usted observará una pantalla similar a esta:

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La dirección IP correspondiente a la Conexión de área local (192.168.0.132 en este ejemplo) será distinta en cada caso. Seleccione ahora el dispositivo XPort dentro del árbol desplegable de la izquierda. Usted observará una pantalla similar a esta:

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Ca Ready				

## Pulse ahora en Assign IP. Aparecerá la siguiente pantalla:



## Pulse Next >. Observará una pantalla similar a la siguiente:

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Introduzca ahora la nueva dirección, por ejemplo 192.168.0.240:

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	1.0	les feets Gent

#### Pulse Next > y después pulse en Assign.



#### Pulse Finish.

Ahora puede observar que la dirección IP del dispositivo XPort ha sido actualizada con el valor deseado.



Ahora ya puede cerrar el programa DeviceInstaller.exe y operar con el VHT4510-Ethernet normalmente. Puede repetir estos pasos en un futuro cada vez que desee asignar una nueva dirección IP al dispositivo.

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