VECTOR®

X2 Ethernet and Wi-Fi communication Web Interface Operation Manual

This manual describes how to access and use the integrated webserver of the X2 Ethernet and Wi-Fi communication module.

The webserver provides a web interface to access the controller in order to change the connection settings and to operate the controller.

The actual web server runs on the X2 communication module. The information is stored in the non-volatile memory of the Ethernet and Wi-Fi X2 communication module Modbus TCP or BACnet/IP.

Content Overview

1 Introduction

To successfully establish a connection of an X2 TCP/IP controller over Wi-Fi / Ethernet to a WLAN / LAN the following requirements must be met:

1. An ethernet or/and WI-FI router
2. A TCP/IP capable X2 controller (see types below)

Six different types of TCP/IP product options are available:

Network Type	Network Connection	X2 Com. Module Type Option	Function / Communication
Ethernet (LAN)	Ethernet plug (RJ45)	-ETM	Modbus TCP with Ethernet plug
		-ETB	BACnet/IP with Ethernet plug
Wi-Fi (WLAN)	Internal Wi-Fi antenna	-WIM	Modbus TCP over Wi-Fi with internal antenna
		-WIB	BACnet/IP over Wi-Fi with internal antenna
	External Wi-Fi antenna	-WEM	Modbus TCP over Wi-Fi with external antenna
		-WEB	BACnet/IP over Wi-Fi with external antenna

All devices include EasySet over TCP/IP support and an embedded web server which is accessible by a web browser through the IP address of the X2 controller.

1.1 Assumption

For all following descriptions in this document, it is assumed that the X2 controller is in the factory default state and TCP/IP configuration is set according to the "Wi-Fi and Ethernet Communication Manual".

> For information on how to set TCP/IP communication, refer to document 70-00-0900 "Wi-Fi and Ethernet Communication Manual"
> The manuals can be found on our website www.vectorcontrols.com.

> More detailed information on the X2 Modbus or BACnet communication setup can be found in the 70-00-0925 "X2-Modbus TCP" manual for the Modbus TCP module or in the 70-00-0899 "X2-BACnet IP" manual for the BACnet/IP module.
> The manuals can be found on our website www.vectorcontrols.com.

2 X2 Web Interface overview

Overview

The actual web server runs on the X2 communication module. The information is stored in the non-volatile memory of the X2 communication module.

ⓘ Depending on the X2 device used, the configuration and the user login, the content of the web page may differ.

Figure 1: Menu bar for X2 device with Ethernet communication (sample)

Figure 2: Menu bar for X2 device with Wi-Fi communication (sample)

User Interface

✏	Use the edit button to:
	1. Edit the associated name of an object (loop-, input-, output-, schedule, domain-name, …). Altered names are permanently saved in the X2 communication module.
	2. Change associated settings of an object (controller time, weekly-, annual-schedules, …). Altered settings are permanently saved in the X2 communication module.

3 Connect and log on to X2 Web Interface

Procedure

1. Connect your client (computer, mobile phone) with the X2 controller directly or via a router
   a. Wi-Fi: Access point mode or station mode
   b. Ethernet: Point to point or via router

2. Open a web browser and enter the X2 controllers IP address or domain name and login to the X2 web interface with the default login information: Username = "**admin**", password = "**admin**"
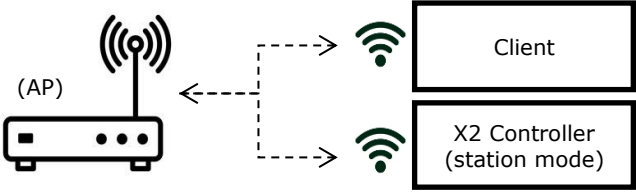
> For other user logins, refer to chapter 9, page 10 in this document
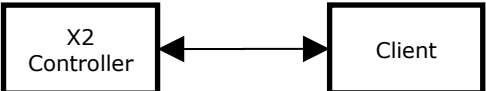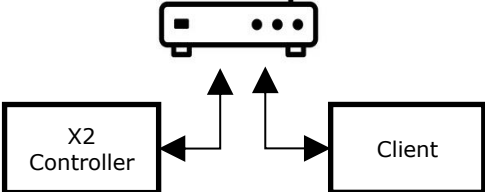
> For additional information on how to connect the X2 controller to a WLAN or LAN network, refer to document 70-00-0900 "Wi-Fi and Ethernet Communication Manual".

3.1 Wi-Fi

Access point mode (AP)	
Situation	
Connection	The X2 controller provides an access point with a fixed IP address or domain name. Any client (Wi-Fi capable device, computer, mobile phone) can connect to this access point.
Security	This connection is encrypted. It is strongly recommended to change the Wi-Fi credentials only in this mode.

Station mode	
Situation	
Connection	The X2 controller and the client connect to an access point (WLAN provided by a Wi-Fi router or Wi-Fi access point). The SSID and password information must be configured over the X2 web interface in access point mode.
Security	This connection is **not** encrypted. Please make sure that the WLAN access is protected and only given to authorized personnel

3.2 Ethernet

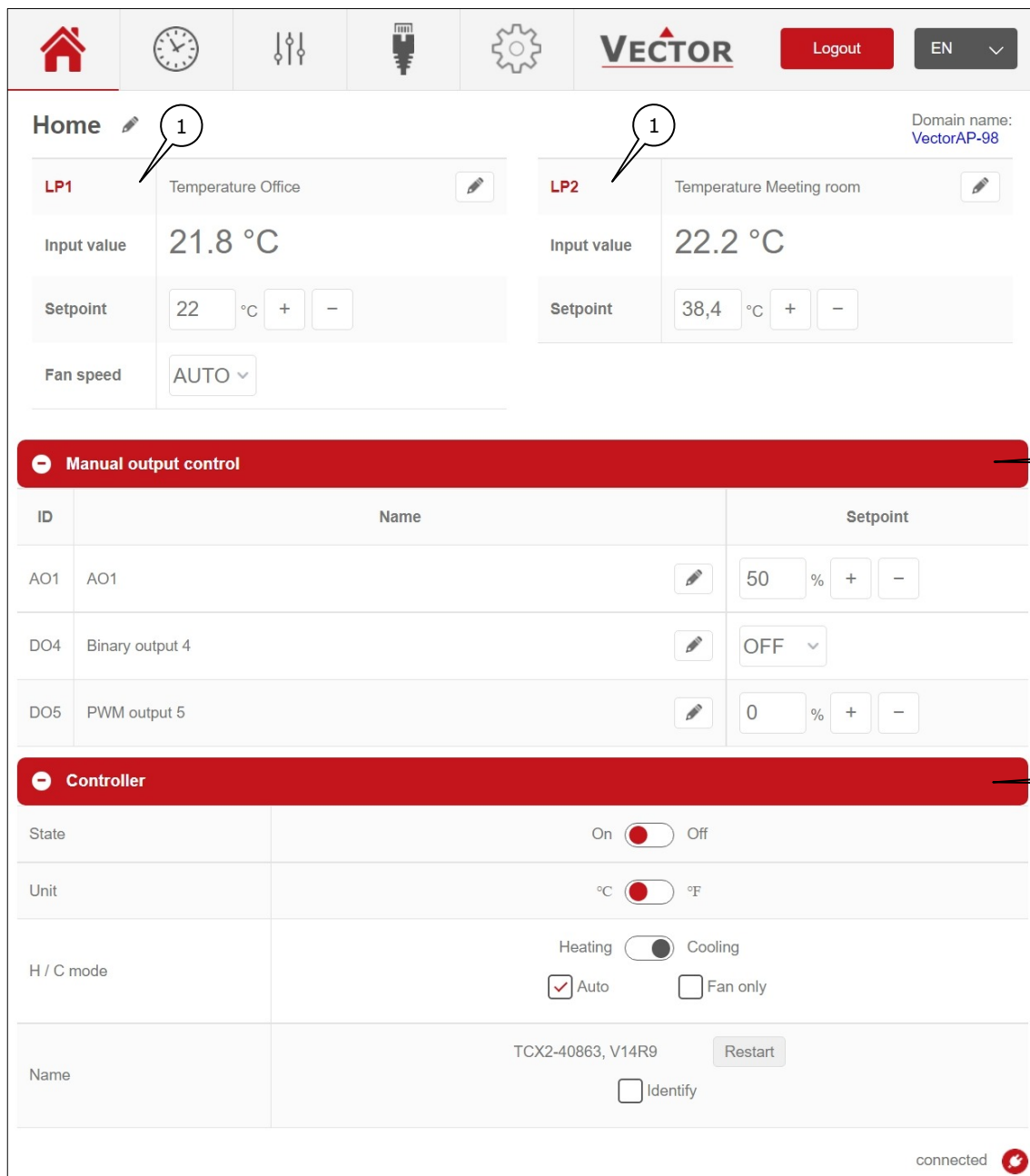| Point to point connection	Via router / switch

4 Home page

In the "Home" menu

1. The control loops and the corresponding control loop input values are displayed in separate boxes. The loop set points can be adjusted.
2. Manual outputs are displayed under "Manual output control" and can be adjusted. The displayed value is the set point and not the actual value. If delays are set, the actual output value may differ.
3. Under "Controller" general controller settings can be adjusted such as the temperature unit (°C / °F) and the controller operation state

> (i) Depending on the X2 device used, the configuration and the user login, the content of the web page may differ. Only correctly configured loops are displayed.

Figure 3: Home Menu (sample)
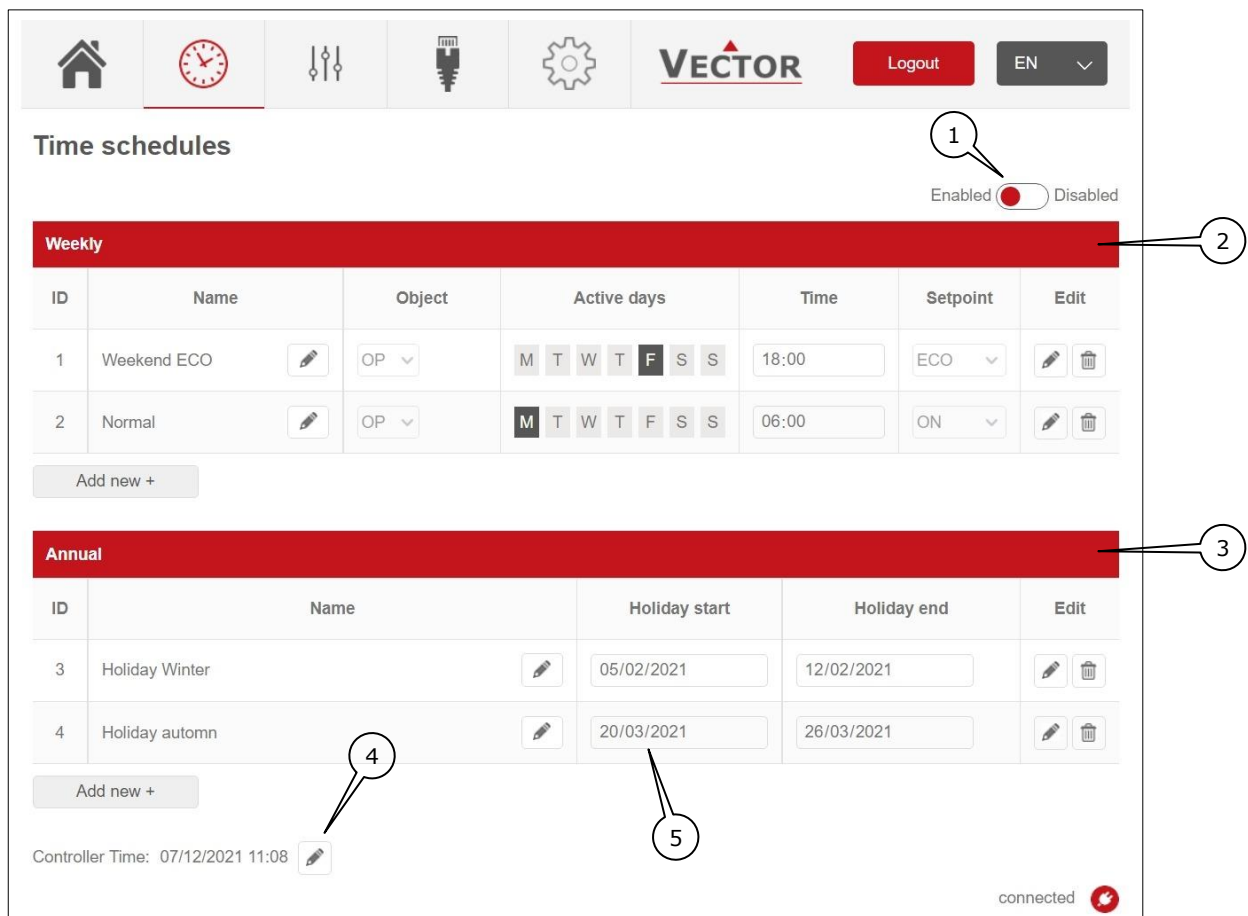
5 Time Schedules page

Use the "Time schedules" menu to:
1. Generally enable / disable time schedules
2. Program weekly time schedules
3. Program annual (holiday) time schedules
4. Set the clock of the controller (controller time)

(i) Up to 12 time and weekday programs or annual holidays can be programmed.

(i) While a holiday schedule is active, the controller will be in the **OFF**-mode!
Other weekly schedules will still be active. It will still be possible to manually override the controller while in holiday mode.

(i) Depending on the X2 device used, the configuration and the user login, the content of the web page may differ.

Figure 4: Time Schedules Menu (sample)

Usage

Pos	Function
4	If the controller time is wrong, please use the edit button in order to correct it. By default, the computers time will be loaded as proposal. It can be manually edited before saving.
5	For setting annual holidays the day and month are used only. The year has no meaning.

5.1 Weekly Time Schedules

5.1.1 Object and Setpoints

The following objects and associated setpoints are available:

Object	Setpoint
OP	Operating mode: OFF = protective operation ECO = Unoccupied, reduced operation ON = Occupied, normal operation
LP n	Control loop setpoint LP1-LPx:* No unit, °C/°F, %, Pascal (according to the X2 configuration)
AO n	Analog output position of AO1-AOx:** 0 – 100%
FAN n	Fan control, fan speed of FAN1-FAN2: Fan speed 0-3 Auto mode (Auto)
DO n	Digital output position of DO1-Dox:*** On = Enabled Off = Disabled

*   The number of available control loops depends on the used X2-controller
**   The number of available analogue outputs depends on the used X2-controller
***   The number of available digital outputs depends on the used X2-controller

(i) Schedule time is rounded down to the next 15 minutes (00, 15, 30, 45).

(i) Tipp: Use up/down arrow key to set the time (hours and minutes).

6 Controller Overview page

In the "Controller Overview" menu:
1. Values /states of the different inputs and outputs are listed

ⓘ Editing of names is only available for the user login "Admin" and "User".

ⓘ Depending on the X2 device used, the configuration and the user login, the content of the web page may differ.

Figure 5: Control Menu (sample)

7   WLAN settings page
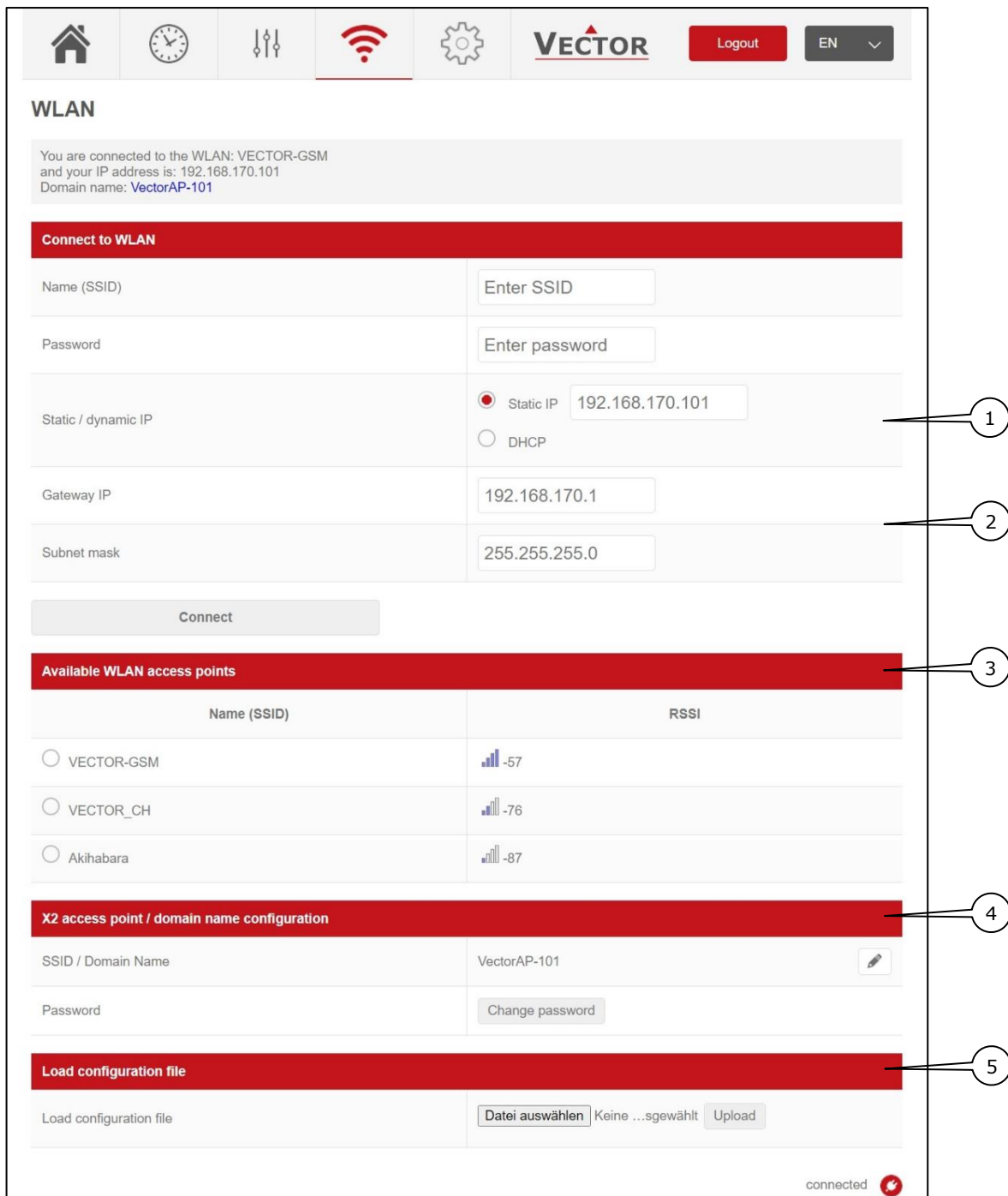
Use the "WLAN" menu to:
1. Set IP address and DHCP mode
2. Set gateway and subnet mask
3. Connect to a WLAN which can be chosen from a list of scanned SSIDs (WLAN access points)
4. Change access point SSID name (=domain name) and password. No spaces are allowed. Please note that you will lose the connection if you change the SSID name while connected to the access point. By pressing the domain name you are able to access the webserver via "domain-name.local" instead of the IP address.
5. Load predefined TCP/IP configuration files

ⓘ The X2 web interface supports the loading of a predefined TCP/IP configuration file.
Please contact Vector Controls support for information on the format and structure of the configuration file.

ⓘ Depending on the X2 device used, the configuration and the user login, the content of the web page may differ.

Figure 6: WLAN Menu (sample)
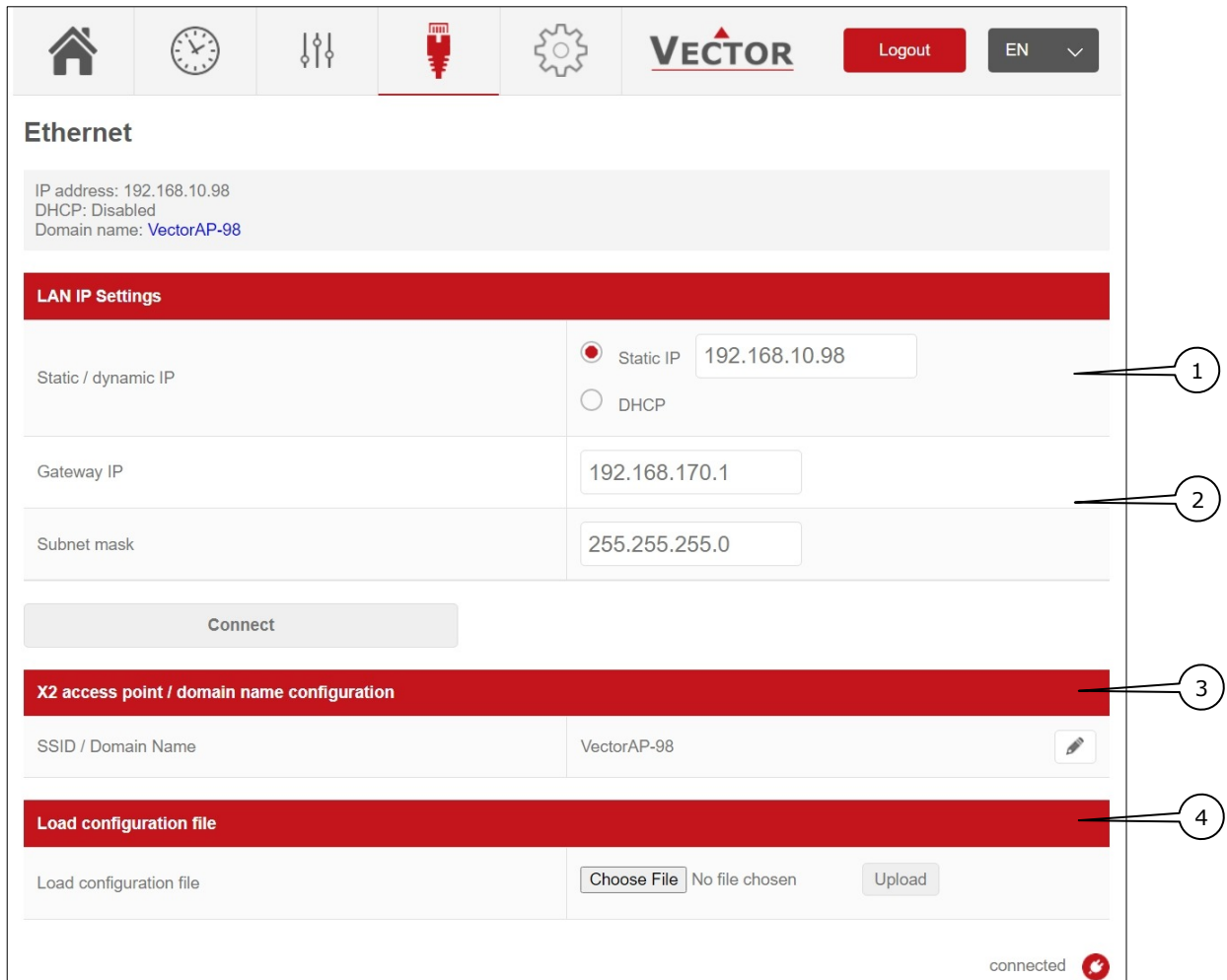
8 LAN settings page

Use the "LAN" menu to:
1. Set IP address and DHCP mode
2. Set gateway and subnet mask
3. Change access point SSID name (=domain name). No spaces are allowed. Please note that you will lose the connection if you change the SSID name while connected to the access point. By pressing the domain name you are able to access the webserver via "domain-name.local" instead of the IP address.
4. Load predefined TCP/IP configuration files

ⓘ The X2 web interface supports the loading of a predefined TCP/IP configuration file.
Please contact Vector Controls support for information on the format and structure of the configuration file.

ⓘ Depending on the X2 device used, the configuration and the user login, the content of the web page may differ.

Figure 7: Ethernet Menu (sample)

9 Advanced settings page

Use the "Advanced settings" menu to:
1. Manage user accounts
2. Perform firmware upgrades of the TCP/IP communication module or web server
3. Load predefined TCP/IP configuration files

ⓘ The X2 web interface supports the loading of a predefined TCP/IP configuration file.
Please contact Vector Controls support for information on the format and structure of the configuration file.

ⓘ Depending on the X2 device used, the configuration and the user login, the content of the web page may differ.

Figure 8: Advanced Menu (sample)

9.1 Account management

The X2 web server supports the three user levels: "admin", "user" and "guest".

ⓘ The X2 web interface usernames are fixed as "admin", "user", "guest".
The user permissions are fixed to the usernames and can be seen in the "user permissions" table below.

9.1.1 Change password

1. Login as "admin", "user" or "guest". The default usernames and passwords are listed below:
    a. admin / admin
    b. user / user
    c. guest / guest
2. The password of all the different user level can only be changed in admin mode.
   The user level "user" can change his own password too.

   Tipp: Save the empty password if no password is requested.

9.1.2 User permissions

Username	Read controller data	Write controller data	Change web interface names	Change password	Change IP settings	Manage users	Firmware Upgrade
admin	x	x	x	x	x	x	x
user	x	x	x	x			
guest	x	x					

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