

WEBS

WEBS: interface module between DFPC controller and Ethernet network with Web-Server function

WEBS module has been developed to be used in all applications of **Domino** system where it is required to control the domotic system through an Intranet or Internet connection, without difficult configuration procedures; for this kind of applications, in association with the specific program for the development of graphical maps, WEBS module is very user-friendly.

To use WEBS module, *BDGraph* upgraded to the latest available version is required; this can be freely downloaded from the website www.duemmegi.it. WEBS requires DFPC controller with firmware upgraded to the latest available version (main microcontroller).

WEBS module can be used in two different operating modes: in the first one it acts as a “bridge” between a local Ethernet network and **Domino** system, while in the second operating mode it can be used as WEB-Server, with web pages that can be created by the user.

WEBS module allows to manage any **Domino** bus variables, like:

- input status
- status and command of real outputs
- status and command of virtual points
- registers
- system clock

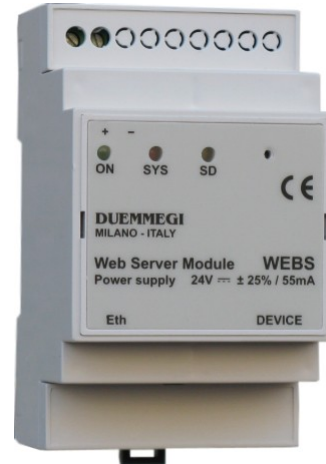
WEBS module has a 2-way terminal block for the connection to power-supply in the range 9 to 24V= (terminals + and -). On the opposite side, the module features an Ethernet connector and a 10-way connector allowing the connection to DFPC controller by means of the provided flat cable. Three LEDs on the front panel show the operating status of the module: the green LED is on when the module is supplied, while the yellow and the red LEDs report more complex information (for more details see the “LEDs meaning” paragraph).

A little hole on the front panel allows accessing to the Reset button; for more details see the related paragraph. WEBS module is housed in a 3M DIN standard module.

The development of the maps to be loaded into WEBS module is supported by the specific tool named *BDGraph*; for details about the development of maps, see the related manual “Graphical Maps”.

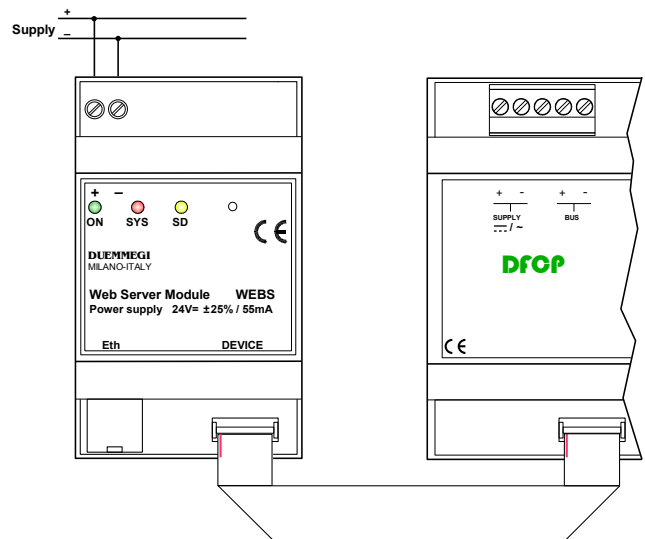
WARNING: the present technical sheet is applicable to WEBS module with firmware upgraded to the latest available release.

NOTE: the WEBS module can be used in Domino and Contatto plants, with the same firmware, because it is able to automatically recognize if the module is connected to DFPC or MCPXT; for the Domino case, refer however to the specific technical sheet.



Module Connection

The connections for the proper operation of WEBS module are shown in the next schematic diagram.



As shown before, WEBS module must be connected to a dc power supply in the range 9 to 24V. After that it is necessary to connect the module to the Ethernet network and to **Domino** DFPC controller; in this way WEBS module will be full operating.

WARNING: for the connection to an Ethernet HUB, a straight cable category 5 must be used, whereas for the direct connection to a PC a cross cable is needed (both these cables are not provided).

Operation

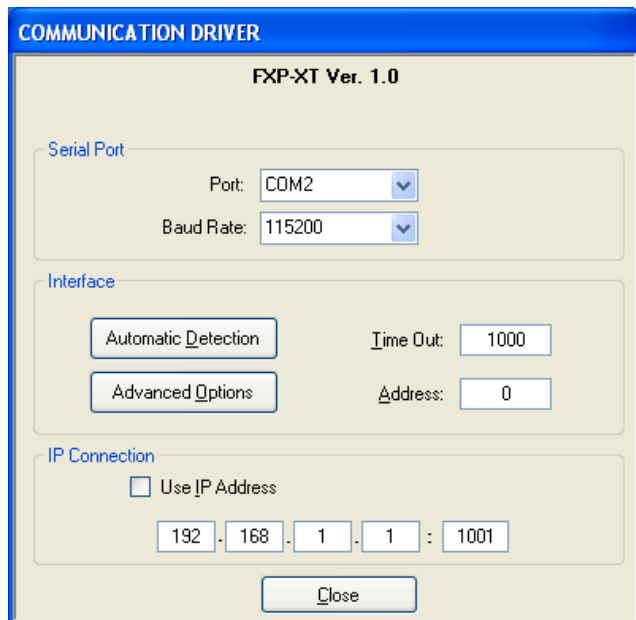
WEBS

WEBS module has been developed to be used in association with DFCP **Domino** bus controller, which does not require any configuration procedure.

As said above, WEBS module can be used in two ways, as bridge (interface between DFCP and Ethernet) or Web-Server.

WEBS: bridge mode

By means of the bridge operating mode, it is possible to make each operation allowed by the programming and diagnostics Tools (BDGraph, DCP IDE). It is possible to use these tools through the local network (LAN) or through Internet (but in this case a VPN has to be enabled, or anyway the router must be set in a proper way) after having entered the IP address assigned to WEBS in the opening communication window used for the connection; in this way it will be possible to interact with **Domino** system from any location in the world (see "Configuration and setting up").



The bridge modality is MONO-CLIENT, therefore WEBS allows the access to only one user at a time (although at the same time with Web-Server users).

WEBS: Web-Server mode

By means of this modality it is possible to upload into WEBS a series of customized WEB pages that have been created through the proper Tool BDGraph upgraded to the latest available version. Through this modality, WEBS module allows the interfacing to a common Web-browser (Firefox, Internet Explorer, etc.); to navigate across the WEB pages, a password will be required (even if this is optional). The pages loaded by the browser and stored inside the WEBS memory, must be created and customized according to the plant and to the user's requirement. About the development of these pages, see the "Graphical Maps" manual.

Web-Server modality is MULTI-CLIENT; it is possible the simultaneous access to a maximum of 4 users (plus one user in bridge mode).

It is also possible to use 5 different login/passwords, each one with its own credentials; it is possible to set username and password for an Admin user and 4 different usernames

and passwords for the other users. It is possible to differentiate, in this way, the maps for each user and therefore the controls that each user can perform.

LEDs meaning

Three LEDs (green, red and yellow) on the front panel of WEBS show the operating status of WEBS module. The green LED shows the power on condition; the red LED features the function of System LED (SYS) and it offers a visual signaling and flashing with different duration depending on the module operating status; the next table lists these modes:

Red LED	On [sec]	Off [sec]
DFCP Connected	0.1	1.5
DFCP Not connected	0.9	0.1
Wrong MAC address	Fisso	-----
SD-Card not present	0.5	0.5
Reset in progress	0.1	0.1

If a polling is running through the bridge mode, the flashing of red LED is fast and irregular. In the case of firmware upgrading, the red LED flashing with "dimming" effect.

The yellow LED (SD) shows the access to the SD-card memory and it flashes in irregular mode when a client is connected in Web-Server mode.

Reset button

A little hole on the front panel allows the access to the Reset button; this button must be used only in the case of effective needing and it has the following functions:

Reset of the module: while the module is powered, push and hold down the button; when the Red LED starts to flash quickly (after 2 seconds about) release the button.

Restoring of default parameters: while the module is powered, push and hold down the button; after 2 seconds about the Red LED starts to flash quickly. The flashing continues for 3 seconds about, after that the flashing slows down; after further 10 seconds, the Red LED return to flash quickly. At this time release the button and the default parameters (IP address, password, etc.) will be restored.

WEBS

Configuration and setting up

After having properly connected the WEBS module, several simple configuration procedures must be executed in order to make the module well operating.

To access to the configuration panel of the WEBS module it is possible to use any browser (FireFox, Internet Explorer, Google Chrome, etc.).

WARNING: to modify the settings and the configuration of WEBS module, it is necessary to access as administrator.

Step 1: users and password configuration

In the address bar of the browser enter the following:

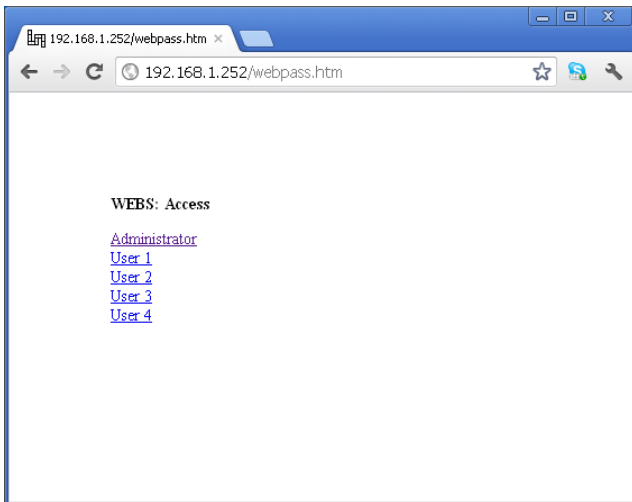
<http://192.168.1.253/webpass.htm>

A window asking for user name and password will be shown; the default ones for the administrator access are:

username: admin
password: admin

It is a good practice, first of all, to change the administrator and users login/password before to use the module. User names and passwords, as the other parameters, can be modified in any moments according to the requirements.

The configuration page for passwords configuration is the following:



It is necessary to choose the wanted voice to modify and then, for each one, save the new settings.

It is possible to enable or disable the Auto login of each user in the event of a LAN connection: in practice for which the user has enabled the Auto Login, when connected to the LAN, will no longer provide the login credentials. However, using a remote connection, the login credentials are always required. To enable or disable the Auto Login is necessary, following the selection of user from the previous window, select Yes to enable Auto Login, or No to disable Auto Login. If each user have selected Yes for this option, the WEBS module proceed with the following hierarchy: user 1, user 2, user 3, user 4, Administrator. Taking the example of the admin user, the configuration window of the Auto Login option will be as follows:



For each saving the following page will be shown:

WEBS updated successfully!

[IP Configuration](#)

[Passwords](#)

[Reset WEBS](#)

To proceed with users configuration, select Passwords, otherwise select Reset WEBS to make operating the new settings. Otherwise select IP Configuration to proceed with the web parameters configuration described in the following.

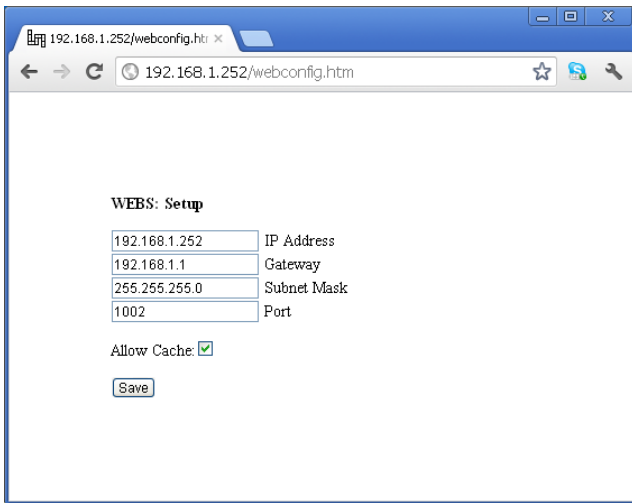
Step 2: IP configuration and web parameters

After the configuration of the passwords it is possible to access to the configuration page. In the address bar of the browser enter the following:

<http://192.168.1.253/webconfig.htm>

WEBS

The configuration page looks like the following:



It is possible, in this configuration page, to set the wanted parameters for IP address, Gateway, Subnet Mask, and the Bridge Port. The shown values in the previous picture are the default ones. The configuration dialog allows to enable browser's cache, this option speeds up the response time of the module itself.

Change these parameters as required and then press the Save button; in this way will appear the following page:

WEBS updated successfully!

[IP Configuration](#)

[Passwords](#)

[Reset WEBS](#)

Select Reset WEBS to make operating the new settings; will appear the next message:

WEBS: Resetting ... (Redirecting to home page in 5 seconds)

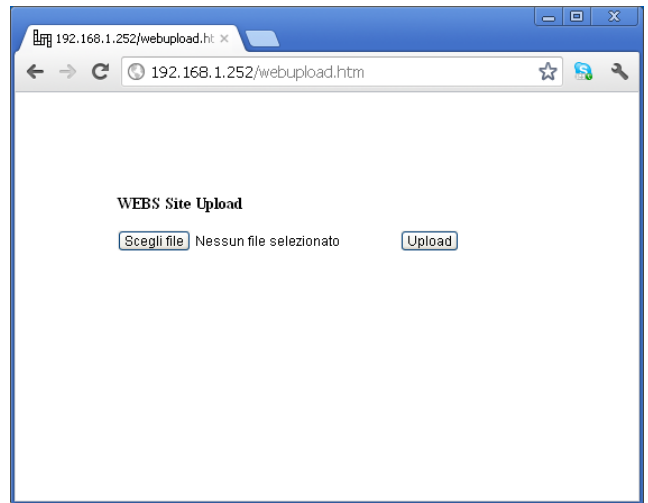
A new login request will appear after 5 seconds.

Step 3: uploading of html pages

For the uploading of html pages (the user Web site), as mentioned in the Graphical Maps manual, it is necessary to enter in the address bar of the browser the following (assuming to have assigned the IP address 192.168.1.253 to WEBS module):

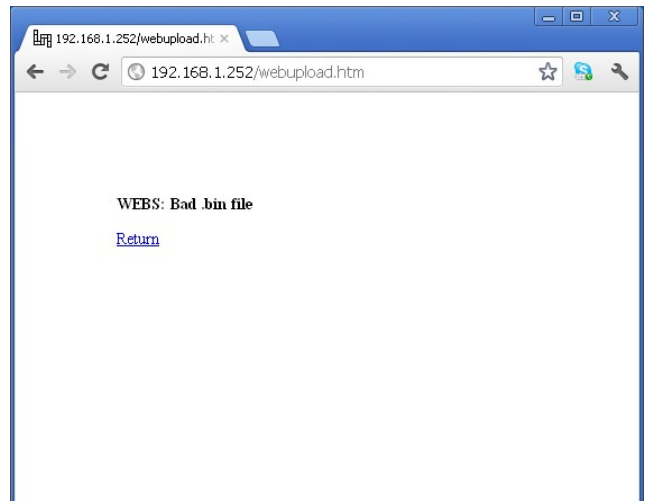
http://192.168.1.253/webupload.htm

The upload page looks like the following:



To upload the user's Web pages, push the button "Browse" and select the .BIN file previously created on your computer (see Graphical Maps manual); at this time push the "Upload" button.

If an error occurs during the upload, the following message will be shown:



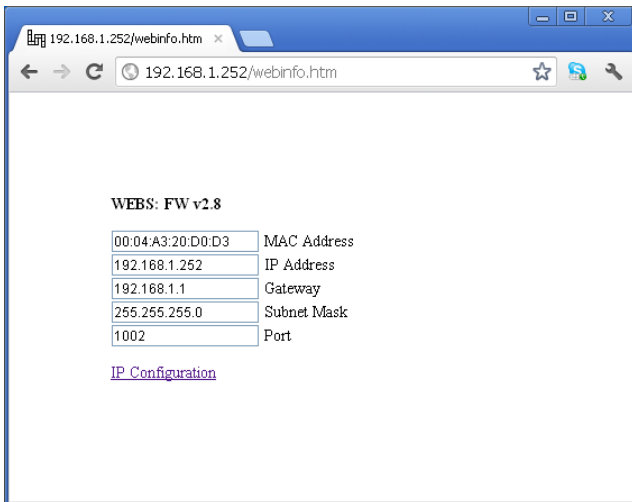
Information Pages

Entering the following address (the WEBS IP address 192.168.1.253 is supposed):

http://192.168.1.253/webinfo.htm

it is possible to show any parameters of WEBS module, as shown in the following picture:

WARNING: the access to information page of WEBS module is granted only to Administrator.

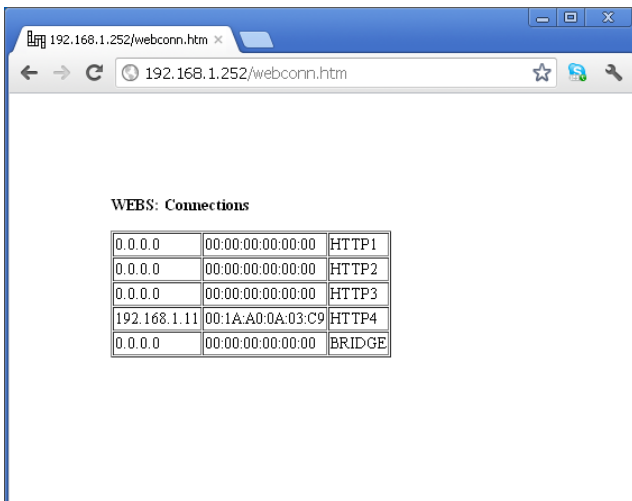


This page shows all settings previously assigned, and the Firmware version of WEBS; from this page it is not possible to modify any parameters. By clicking on IP Configuration it is possible to go back to the configuration page of WEBS module (.../webconfig.htm).

Connected Users Info

It is possible to monitor the connected users in Web-Server and Bridge modality: in the address bar of the browser enter the following:

<http://192.168.1.253/webconn.htm>



As shown in the previous screen-shot, the first 4 lines report the IP address of the connected users in Web-Server modality, and the fifth-line reports the connected user in Bridge modality.

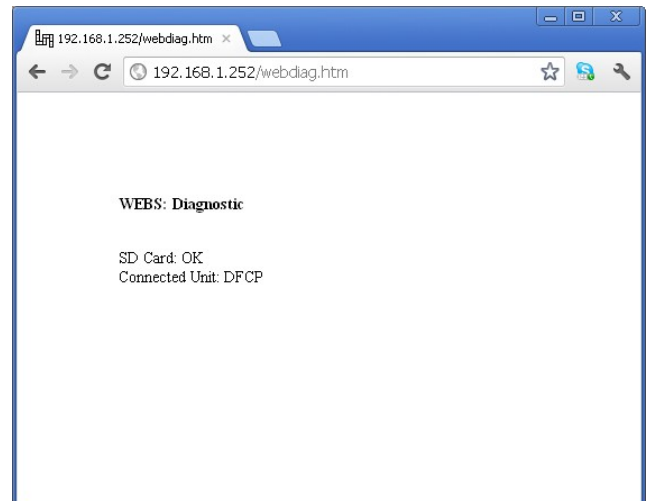
WARNING: the access to the connected users page is granted only to the Administrator.

Diagnostics

In the address bar of the browser enter the following:

<http://192.168.1.253/webdiag.htm>

in this way it is possible to show the SD-CARD status and the connected unit. The related screen-shot is the following:



WARNING: the access to diagnostic page is granted only to the Administrator.

Logout

To close the connection with WEBS module, however optional operation, it is necessary to execute the logout from the module entering in the browser bar the following address:

<http://192.168.1.253/weblogout.htm>

A message confirming the logout will be then shown.

Remote Reset

If unexpected events occur, causing the blocking of WEBS module, it is possible to use a special command to execute the RESET of the module from a remote location (through the network); this RESET is similar to the hardware reset of module. In the browser bar enter the following address:

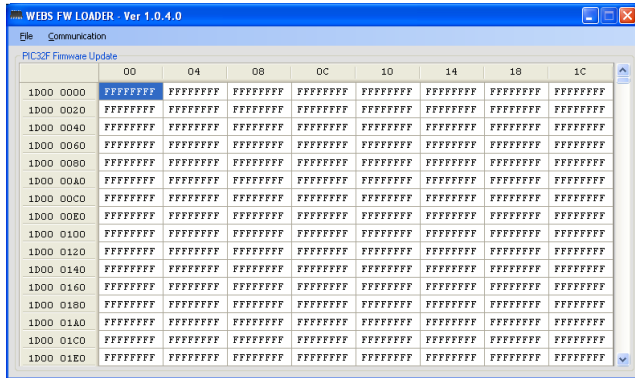
<http://192.168.1.253/webreset.htm>

WARNING: the reset of WEBS module is granted only to the Administrator. Each time that a change has been made to the configuration parameters, it is necessary, to be operative, to RESET the module.

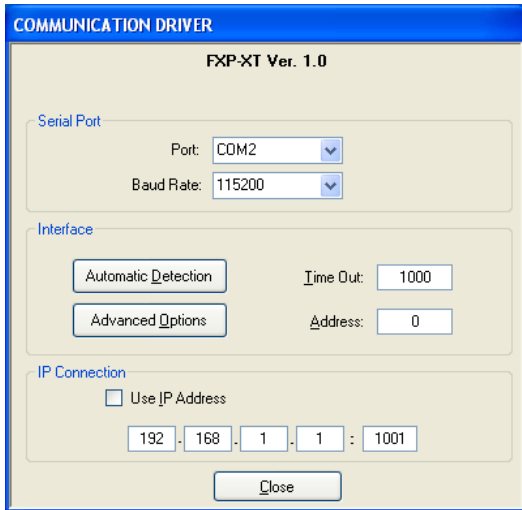
Firmware Updating

To execute the Firmware Update of WEBS module, the program **BootWEBS** upgraded to the **latest available version**. It also requires that the PC is connected to the RS232 serial port of **DFCP** (or, in alternative, **RS485 by a specific converter**). DFCP must be connected to the WEBS module to be updated through the specific flat cable. DFCP must have main firmware upgraded.

Start the BootWEBS program, the following will be shown:

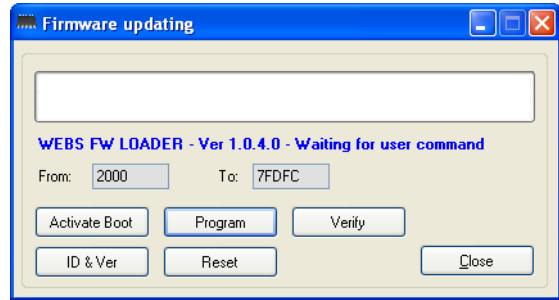


From the menu select **“Communication”**; the window shown in the following picture will be opened. Press the button **“Automatic Detection”** to enable the communication with DFCP, then press the button **“Close”**.



An Ethernet connection can be used by the specify of the IP address of connected converter to the serial port of DFCP; this converter can NOT be the same WEBS in bridge modality.

From the program menu select **“File”** and then **“Open”**; it is possible, in this way, to load the **.HEX** file to be downloaded into WEBS module. Select **“Communication”** and the **“Program”**; in this way the following window will be shown.



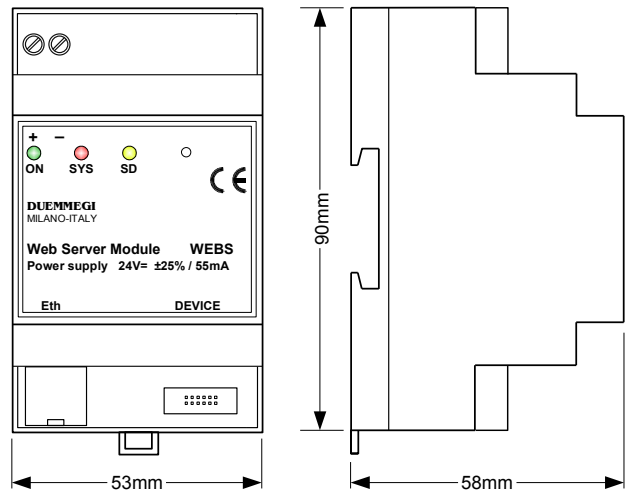
The **“ID & Ver”** button allows to visualize the current version of the firmware uploaded in the WEBS module.

Click on the button **“Activate Boot”**; the red LED on WEBS module will start to flash with “dimming” effect, shown that the module is ready to receive the new firmware. Then press the button **“Program”** and wait for the end of the operation. At the end of upgrading, to make operating the module, click on button **“Reset PIC”**, then select **“Close”** to quit the program.

Technical characteristics

Power Supply	9 ÷ 24V --- SELV
MAX current consumption	105mA @ 9V --- 55mA @ 24V ---
DFCP Interface	Proprietary SPI interface
Ethernet interface	10/100BaseT Ethernet
Housing	DIN standard 3M per guida DIN
Operating temperature	-5 ÷ +50 °C
Storage temperature	-20 ÷ +70 °C
Protection degree	IP20

Outline dimensions



Correct disposal of this product

(Waste Electrical & Electronic Equipment)
(Applicable in the European Union and other European countries with separate collection systems). This marking on the product, accessories or literature indicates that the product should not be disposed of with other household waste at the end of their working life. To prevent possible harm to

the environment or human health from uncontrolled waste disposal, please separate these items from other types of waste and recycle them responsibly to promote the sustainable reuse of material resources. Household users should contact either the retailer where they purchased this product, or their local government office, for details of where and how they can take these items for environmentally safe recycling. This product and its electronic accessories should not be mixed with other commercial wastes for disposal.

Installation and use restrictions**Standards and regulations**

The design and the setting up of electrical systems must be performed according to the relevant standards, guidelines, specifications and regulations of the relevant country. The installation, configuration and programming of the devices must be carried out by trained personnel.

The installation and the wiring of the bus line and the related devices must be performed according to the recommendations of the manufacturers (reported on the specific data sheet of the product) and according to the applicable standards.

All the relevant safety regulations, e.g. accident prevention regulations, law on technical work equipment, must also be observed.

Safety instructions

Protect the unit against moisture, dirt and any kind of damage during transport, storage and operation. Do not operate the unit outside the specified technical data.

Never open the housing. If not otherwise specified, install in closed housing (e.g. distribution cabinet). Earth the unit at the terminals provided, if existing, for this purpose. Do not obstruct cooling of the units. Keep out of the reach of children.

Setting up

The physical address assignment and the setting of parameters (if any) must be performed by the specific softwares provided together the device or by the specific programmer. For the first installation of the device proceed according to the following guidelines:

- Check that any voltage supplying the plant has been removed
- Assign the address to module (if any)
- Install and wire the device according to the schematic diagrams on the specific data sheet of the product
- Only then switch on the 230Vac supplying the bus power supply and the other related circuits

Applied standards

This device complies with the essential requirements of the following directives:

2004/108/CE (EMC)
2006/95/CE (Low Voltage)
2002/95/CE (RoHS)

Note

Technical characteristics and this data sheet are subject to change without notice.