## DFH: Web server for managing of 1 **Domino** system, 1 security system, 1 video-camera, 1 I/O server, 1 IR TRANS

The DFH module has been developed to be used in all installations using **Domino** system when it is required to control the plant through a LAN or Internet connection.
DFH integrates a standard WEBCON multi-protocol Web server with license for a **Domino** bus, so it is a powerful Web-based system that, as such, does not require installation of any special software other than any Web browser.

DFH module for **Domino** bus represents an integrated solution for the control and management, both locally and remotely, of lighting, climate control, scheduled operations, loads control, energy monitoring, intrusion detection, fire and safety, access control, irrigation, VoIP phone systems, multi-room audio/video systems, sceneries, speech synthesis and much more.

DFH module allows to manage most of the variables of the **Domino** bus, specifically:

- digital inputs status
- status and command of real outputs
- value of analog inputs (eg. temperature)
- setting of analogue outputs (eg. dimmer)
- status and command of virtual points
- management of scheduled times

Through DFAPP module it is possible to program **Domino** modules, both locally and remotely, as well as update their firmware. DFH module is open to future developments, being itself completely upgradeable.

DFH module features a rel time clock with backup battery capable of retaining the time in case of main power supply failure.

Some LEDs visible from the panel provides an indication of the operating status of the module as described in the following table:

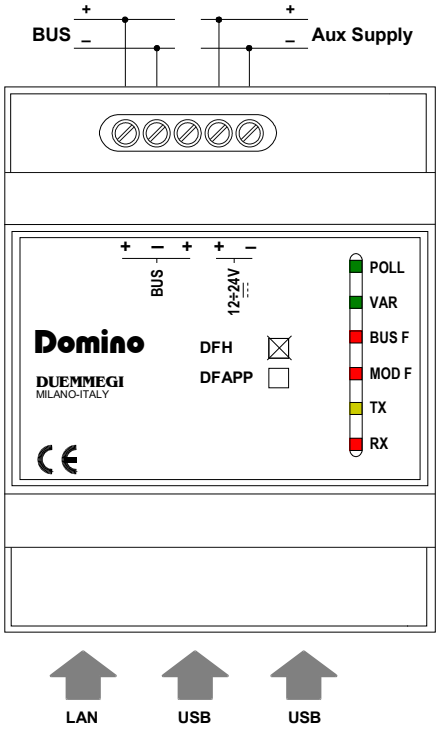
| LED | Color | Function |
|---|---|---|
| POLL | Green | It flashes to indicate the polling of modules |
| VAR | Green | It flashes in case of change of state of a **Domino** digital input module |
| BUS F. | Red | Fixed On when **Domino** bus failure occurs (if DFAPP is separately powered) |
| MOD F. | Red | Fixed On in case of failure of one or more bus modules |
| TX | Yellow | It flashes when the communication is active |
| RX | Red | It flashes when the communication is active |

DFH module features a terminal block for the connection to the **Domino** bus. For proper operation, an auxiliary dc power supply 12 ÷ 24V 15W is required.


The Ethernet port allow the connection of DFH module to a hub/router and the USB connectors to other systems to be supervised by WEBCON server. DFH module is housed in a DIN 4M box for rail mounting.
The customization of WEBCON supervisor integrated into DFH module can be performed through any Web browser, so there is no need to install any special software.

## Module connection

The following schematic diagram shows the connections required by DFH module.



As shown in this schematic diagram, DFH module must be connected to a dc power supply in the range 12 to 24V, to the **Domino** bus, to the Ethernet network and to the possible additional systems through the 4 USB ports.

## Setting up

DFH integrates a standard WEBCON multi-protocol Web server with license for a **Domino** bus. Therefore always refer to WEBCON standard documentation, available on http://wiki.hsyco.com, for information on the installation and system configuration.

To use configuration and maintenance tools of **Domino** system (DCP Ide, BootTools), the option "toolpassword" of I/O **Domino** Server must be enabled. The communication between the tools and DFH module is protected by the standard SSL encryption, but to prevent unauthorized access it is imperative that the password set in "toolpassword" is very long (we recommend the use of at least 24 characters and numbers upper and lower case) and secret.

## Supported systems

In addition to the **Domino** bus, WEBCON supports other systems for home automation. The list below gives some compatible brands and models; for a more updated and complete list, refer to the related documentation or contact **DUEMMEGI**.

1 SECURITY SYSTEM
*(devices connected through optional RS232/USB cable)*
- BENTEL KIO 320
- PARADOX EVO48/192 with INTERFACE PRT3
- GUARDALL QX32i, PX80, PX500
- ARITECH CSX75 and MASTER ATS
- INIM SMART LIVING 515-1050-10100
- ELMO ETR10

(devices connected through CAT5/6 cable)
- TECNOALARM TP16-512GSM, TP96GSM, TP9-96VIDEO, TP8-88 with Tecnout protocol
- TECNOALARM TP8-64BUS,TP16 with interface PROGNET2 –Tecnout
- BOSCH MAP 5000

***1 I/O SERVER SYSTEM***
*(Interfaces connected through CAT5/6 cable)*
- MITSUBISHI interface AG-150, GB-50, G-50, EB-50, EW-50, AE2000
- DAIKIN interface ITC with http license
- MODBUS TCP
- MODBUS RTU Connection through USB/RS485 converter (FTDI) not provided
- AIRZONE INNOBUS, FLEXA, ANTREE and CEN (through MODBUS RTU - connection through USB/RS485 (FTDI) converter not provided

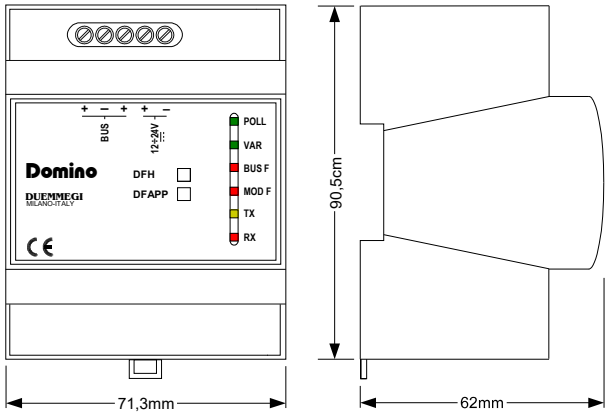
***1 IP CAMERA***
*(Cameras connected through CAT5/6 cable)*
- SAMSUNG Ipolis
- MOBOTIX
- AXIS
- HIKVISION
- VIVOTEK
- BOSCH

***1 IR TRANS** (for I.R. Control of devices such as TV, Home Theater , Split, etc…)*
*(Interfaces connected through CAT5/6 cable)*
- IRT-LAN DB
- IRT-POE DB
- IRT-WIFI DB

## Technical characteristics

| | |
|---|---|
| Power supply | 12 ÷ 24V ⎓ 15W SELV |
| MAX current consumption | 1.2A @ 12V ⎓<br>0.6A @ 24V ⎓ |
| CPU | Raspberry Pi 3 con CPU<br>quad-core Cortex-A53 Broadcom<br>BCM2837 1.2GHz |
| WiFi | BCM43438 WiFi on board |
| RAM | 1GB |
| SSD | Micro SD industrial-grade SLC 8GB |
| Available interfaces | 4 USB<br>1 Ethernet 10/100Mbps |
| Real time clock | Yes, with internal backup battery |
| Housing | DIN standard 4M for rail mounting |
| Operating temperature | 0 ÷ +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:
2014/30/UE (EMC)
2014/35/UE (Low Voltage)
2011/65/UE (RoHS)

## Note

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