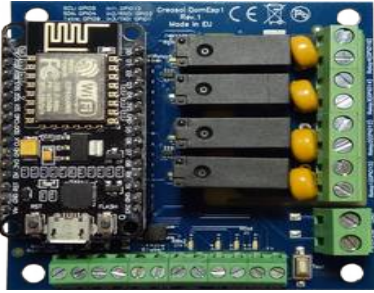


Creasol DomESP1 Input/output/supply board for ESP8266



ESP8266 is a very powerful and cheap MCU equipped with WiFi transceiver, very useful to expand inputs/outputs of a Raspberry/Domoticz controller, and available on the market in preassembled modules with 30 pins headers.

Creasol DomESP1 board is designed for ESP8266 module NodeMCU V3, with 900 mils headers pitch, and integrates the whole circuitry to manage digital inputs, one analog input, 4 relay outputs, 1 low voltage output, I²C bus, 1wire bus and optionally one serial port (UART).

The LEDs on every input, output and bus, permit to check the status of the board and found any problem on wire connections or firmware configuration: LEDs are enabled only by pressing the button Test.

The LEDs enable feature and the switching mode power supply lead to a full control of inputs/outputs status with an optimized power consumption.

Instructions to program ESPEasy firmware is available at <https://www.creasol.it/domesp1conf> : with this firmware it's possible to match I/O and sensors in this board with a Domoticz controller.

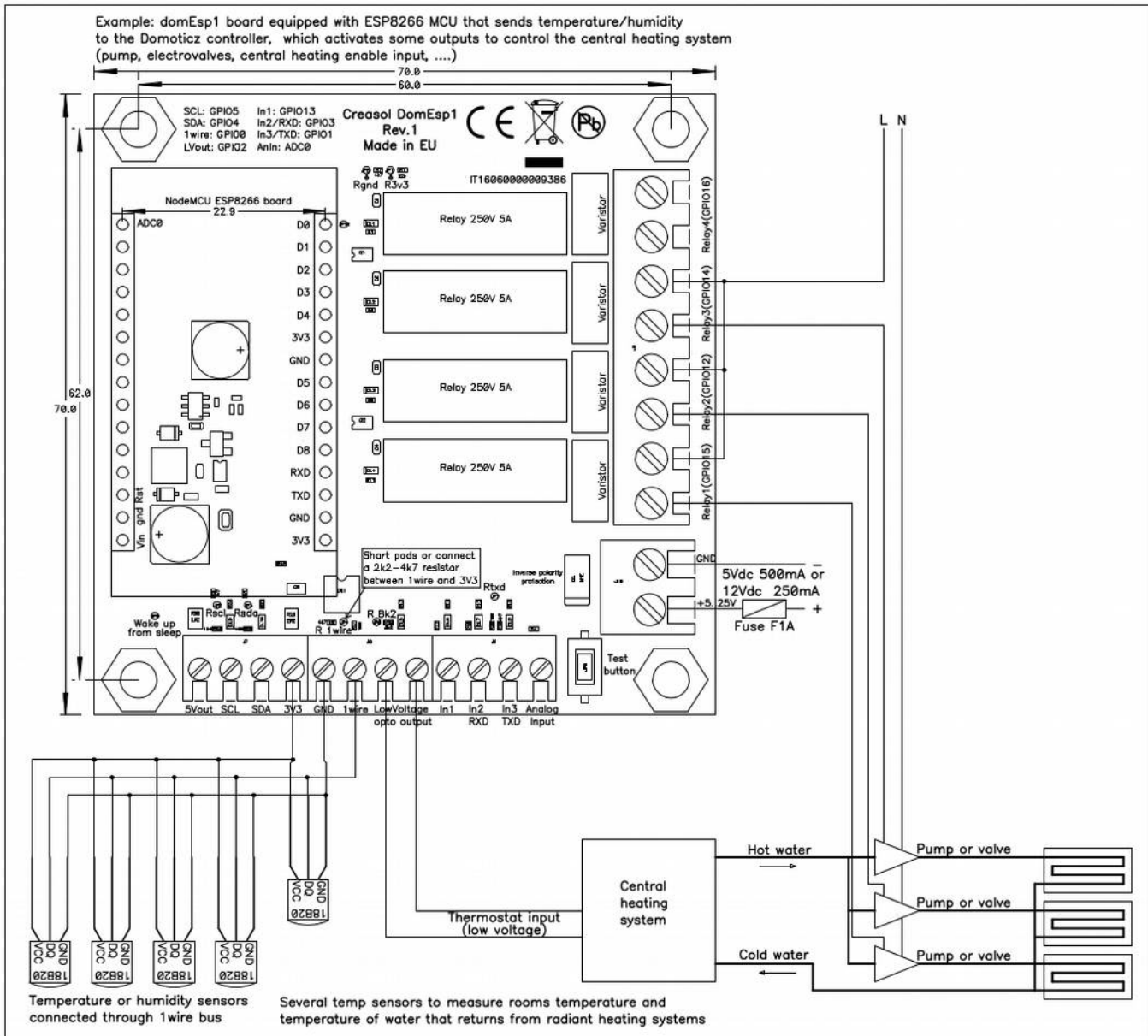
Features and specifications

- 4 relay outputs (250V 5A switch capability with non-inductive load. In case of inductive load, switch current is lower)
- 1 low voltage output (60V 100mA capability)
- 1 analog input
- 1 digital input + 2 digital inputs shared with asynchronous serial port (if needed)
- I²C bus to connect a wide range of sensors and devices
- 1wire bus for temperature/humidity sensors
- switching mode power supply, to reduce power consumption/dissipation; 5-25Vdc input voltage with 5Vdc and 3.3Vdc outputs on terminal blocks
- current consumption in standby: typically 80mA @5Vdc, 40mA @12Vdc, 20mA @24Vdc

Application note: Creasol DomESP1 connected to a central heating system

The following diagram shows how to connect some temperature/humidity sensors by 1wire bus to monitor room and water temperatures; ESP8266 controls one low voltage output to enable/disable the heating system, and 3 outputs to enable/disable 3 pumps or valves.

This is just an example. Through the WiFi connection, the ESP8266 module installed on this board will communicate temperatures to Domoticz controller, which will enable/disable the central heating system controlling the 3 heating zones by enabling/disabling the corresponding pump.



Safety information

The appliance must be disconnected from the power supply before carrying out any installation work. Electricity must be removed even for the external devices connected to the board (e.g. lights, pumps, electronic boards,... connected to the relay outputs).

Installation and maintenance must be carried out by a qualified technician, in compliance with the manufacturer's instructions and local safety regulations.

The electronic board must be installed into a well protected plastic enclosure, well protected by accidental contact with other metal objects.

Power supply must be protected by a fuse, as indicated in the application schema. External devices can be connected to the board only if they meet the specifications indicated in the *Features and specifications* section.

The manufacture do not respond for improper use or connection of this device.

Disposal

The packing material is 100% recyclable and should be disposed in the appropriate recycle bins. The electronic board cannot be disposed as household waste, but must be disposed of correctly or returned to the seller when purchasing a new equivalent product. Heavy fines can be imposed by local laws for illegal disposal. By ensuring this product is disposed of correctly, you will help avoid potential negative consequences for the environment and human health, which could otherwise be caused by inappropriate waste handling of this product.

Warranty

The warranty complies with statutory requirements, and covers only defect in material, workmanship or lack of conformity. Your local stockist should be contacted in connecting with any warranty-related matters.

CE Declaration of Conformity

This equipment meets the essential requirements of the European Directive 2014/30/EU. The complete Declaration of conformity can be obtained from the supplier.