M-OUT-4p: Module with four voltage analogue outputs and inputs

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Technical data

Supply voltage
12 — 16V DC

Idle current consumption
30mA

Maximum current consumption
120mA

Number of voltage analogue outputs
4

Range of voltage analogue outputs
0 — 10V DC

Technical data cont.

Maximum current of a single analogue output
20mA

Number of analogue inputs
4

Analogue inputs impedance
20kΩ

Analogue inputs range
0 — 10V DC

1-Wire
up to 6 sensors

Dimensions

Width
41mm

Height
44mm

Depth
16.5mm

Environment

Temperature
-40 — 50°C

Humidity
≤95%RH, non-condensing

The image above is for illustration purpose only. The actual module may vary from the one presented here.

General features

Module M-OUT-4p is a component of the Ampio system. Required voltage to power the module is 12 — 16V DC. The module is controlled via CAN bus.

The module has four voltage analogue outputs, four analogue inputs and a 1-Wire interface.

Voltage analogue outputs

Voltage analogue outputs allow for integration with devices that have voltage control inputs compatible with the 0 — 10V DC, 1 — 10V DC, 0 — 5V DC standard, e.g. lighting fixtures, recuperators, inverters, etc.

The voltage of analogue outputs can take values in the range of 0 — 10V DC. The maximum load of a single output is 20mA.

Analogue inputs

The module has inputs that allow for voltage measurement in the range of 0 — 10V DC. Input impedance is 20kΩ. These inputs can be useful for the acquisition of measurement signals from devices with voltage analogue outputs.

Temperature sensors

The module is equipped with a 1-Wire interface connector that allows to connect up to 6 digital Dallas DS18B20 temperature sensors. The temperature measurement result is available for all devices operating within the building automation bus. It may turn out to be particularly useful for purposes related to temperature regulation, or to present the measurement result on touch panels and in a mobile application.

The total length of the 1-Wire bus cable to which the temperature sensors are connected cannot exceed 15m.

Typical application

- Controlling devices with analogue voltage inputs, e.g .:
  - air conditioners,
  - lighting fixtures,
  - recuperators,
  - inverters,
- Integration with devices with analogue outputs, e.g.:
  - brightness sensors,
  - soil moisture sensors;
- room temperature measurement.

Installation

The dimensions of the module enable its installation in a standard junction box. In order to start the module, it must be connected to the CAN bus. The bus of the Ampio system consists of four wires - two for power and two for communication between the modules.

In addition to the CAN bus interface, the device has three connectors with screw terminals. They allow for the connection of cables to four voltage analogue outputs, four analogue signals to the module inputs, and up to 6 digital Dallas DS18B20 temperature sensors.

Device status LEDs

On the front of the module there are signalling LED indicators. The redl LED with the label *CAN* indicates the status of communication on the CAN bus:

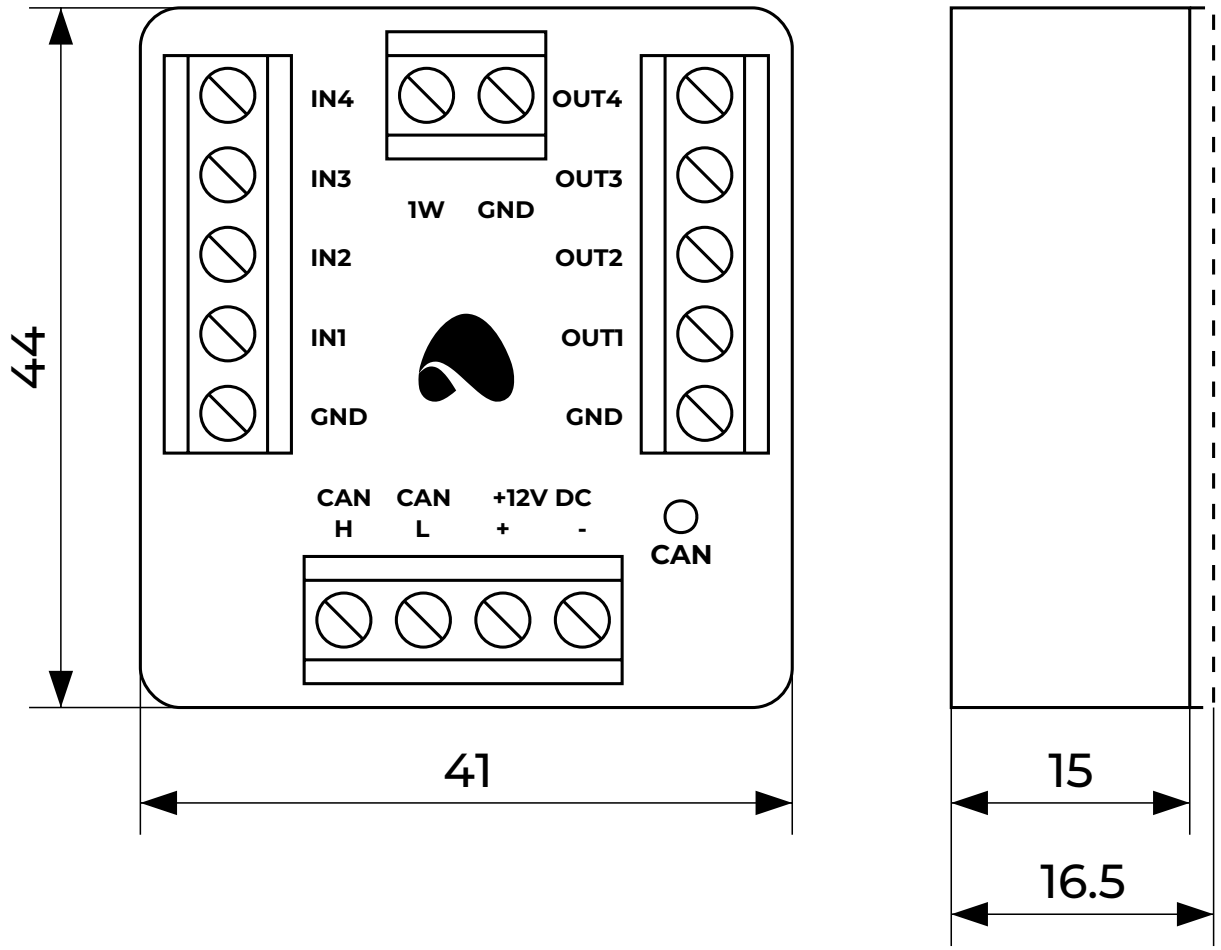
- one regular flash every 1 sec. – CAN bus communication is working properly,
- two regular flashes every 1 sec. – the module is not receiving information from other modules,
- three regular flashes every 1 sec. – the module cannot send information to the CAN bus;

Programming

The module is programmed with the use of the Ampio Designer software. It allows you to modify the parameters of the module and define its behaviour in response to signals directly available to the module as well as general information coming from all devices present in the home automation bus.

Module dimensions

Dimensions expressed in millimeters.



Connection diagram