M-IN-16s: Module with sixteen bi-state inputs

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Technical data

Supply voltage
11 — 16V DC

Current consumption
25mA

Number of alarm inputs
16*

Dimensions

Width
105mm, 6 spaces/modules in DB

Height (incl. plugs)
110mm

Depth
59mm

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.
* The alarm inputs can also be used as classic binary inputs.

General features

Module M-IN-16s is a component of the Ampio system. Required voltage to power the module is 11 — 16V DC. The module is controlled via CAN bus.

The module has sixteen alarm inputs.

Alarm inputs

The module has bi-state inputs that go into an active state when they are shorted to ground, allowing for the connection of any devices with potential-free contact outputs or optocoupler outputs. Such devices may include, in particular, reed switches and other alarm devices.

Depending on the configuration, alarm inputs can work with devices with the following types of contacts:

- normally closed contacts,
- normally open contacts,
- tamper-proof contacts:
  - EOL NC/NO,
  - 2EOL NC/NO

In addition to alarm applications, the inputs can be used as general purpose inputs in the case of any devices with potential-free contact outputs, e.g. wall switches, reed switches, buttons, switches, etc. They can also be used for integration with devices with potential-free relay outputs or optocoupler outputs with a collector voltage greater than 12V.

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

- Connecting classic light switches or other devices with potential-free contact outputs;
- integration with devices with potential-free relay outputs;
- integration with devices with optocoupler outputs;
- measuring room temperature.

Installation

The module is designed for mounting on a 35mm DIN rail. The module's width is 105mm, 6 spaces/modules in DB. 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 two connectors with screw terminals. They allow for connecting sixteen signal lines to alarm inputs.

In the case of loads with low power consumption, in particular small alarm sensors, it is possible to use the *AUX* terminals located on the alarm inputs' connectors, in order to power the devices. These terminals have the same voltage as the module's supply voltage. The current consumption of each device connected to the *AUX* terminals must not exceed 100mA.

Device status LEDs

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

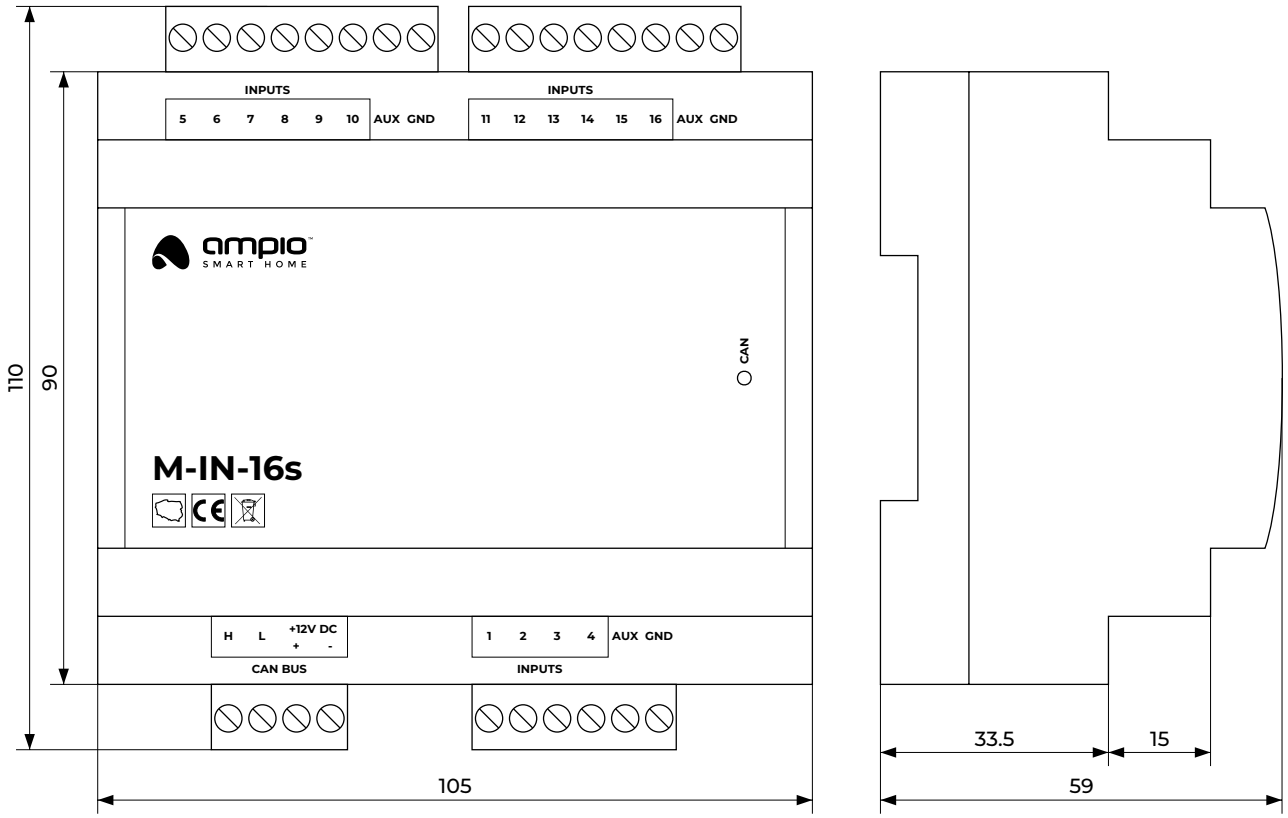
- one regular flash every 1 sec. – CAN bus communication is working properly,
- two regular flashes every 1 sec. – the module is not receiving information from other modules,
- three regular flashes every 1 sec. – the module cannot send information to the CAN bus;

Programming

The module is programmed with a special programmer, available for authorised technicians, and the Ampio Smart Home CAN configurator 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