

M-DOT-R2 PRO: 2-field touch panel module with RFID reader

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Technical data

Supply voltage
11 – 16V DC

Idle current consumption
20mA

Maximum current consumption
60mA

Number of sensor fields
2

Technical data cont.

1-Wire
up to 6 sensors

Buzzer
yes

Communication interface
RFID

Dimensions

Width
90mm*

Height
90mm*

Depth
22mm

Environment

Temperature
-20 – 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 exact dimensions of the module depend on the variant of the glass edge finish selected when placing an order.

General features

Module M-DOT-R2 PRO 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 M-DOT-R2 PRO module is available for sale by special order. The minimum order for the R PRO series is 10 items.

The module has two sensor fields, an RFID card reader and a 1-Wire interface. It is designed to support functionalities related to alarm systems and access control.

Sensor fields

The touch panel sensor fields are capacitive buttons located behind the glass pane, which is the front of the module. Each sensor field is marked with a symbol engraved on the glass surface.

The condition for triggering an action associated with a given field can be pressing, holding, double-pressing, etc. A single field can initiate multiple actions depending on how it is triggered.

Each sensor field is illuminated by an RGB diode, which allows one to define any backlight colour. The backlight can be constant or change during the system operation, signalling the status of devices associated with the field or any other information available in the building automation system.

There are coloured status LEDs above the sensor fields. As in the case of backlight, they can signal the status of devices associated with the field or any other information available in the building automation system.

The brightness of both, the symbols and the status LEDs, can be modified. The panel has a proximity sensor, thanks to which it is possible to define a weaker backlight when there is no interaction with the panel, and a stronger one, which activates when one brings a hand close to the panel.

Personalisation

The symbols of the module's sensor fields are engraved in accordance with the client's design. The colour of the module's front glass and the chamfer's width of the glass edge are also subject to personalisation.

The symbols of the two sensor fields located next to the RFID reader and the content of the frame marking the place where the RFID cards are to be approached can be personalised. The symbols forming the numeric keypad can be selected from a pool of predefined variants.

RFID card reader

The module is equipped with an RFID card reader. It allows reading cards in the ISO14443A, ISO14443B and ISO15693 standards at a frequency of 13.56 MHz and is used to implement access control functionalities.

Internal verification

During the configuration stage, it is possible to save a series of RFID card identifiers that will be recognised by the M-DOT-R2 PRO module. When a card that is recognised by the device is brought close to it, information about this event is sent to the CAN bus. This information can be used by other devices in the building automation system.

For each added card, it is also possible to assign a schedule specifying when it is to be recognised.

In order to use the functionality of schedules, the bus must have a module that provides time information, e.g. a module from the M-SERV or M-RT family.

Buzzer

The module is equipped with a buzzer that allows you to generate sound signals. By default, each press of the panel's sensor field triggers a short buzzer sound signal. However, this behaviour can be modified.

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.

Example applications

- Implementation of access control mechanisms;
- Switching on lighting or any other devices connected to the building automation system.

Installation

The panel can be mounted on a surface or it can be flush with the wall surface. Depending on the expected effect, a flush mounting plate or surface mounting frame is used. The frames are available in two variants - for panels with glass with and without chamfered edges.

Both in the case of flush and surface mounting, a standard junction box must be located behind the panel, inside which there will be connectors for the CAN bus and the 1-Wire interface. In the case of flush mounting, the box must be embedded in the wall at a greater than standard depth.

A detailed description of the installation of panels in both variants is available in the appropriate installer guides published on the [Ampio knowledge base](#) website.

Device status LEDs

On the back of the device, there is one red LED indicating the communication status within 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 smart modules,
- three regular flashes every 1 sec. – the module cannot send information to the CAN bus;

After the device is embedded in the mounting plate or frame, the LED is hidden.

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.

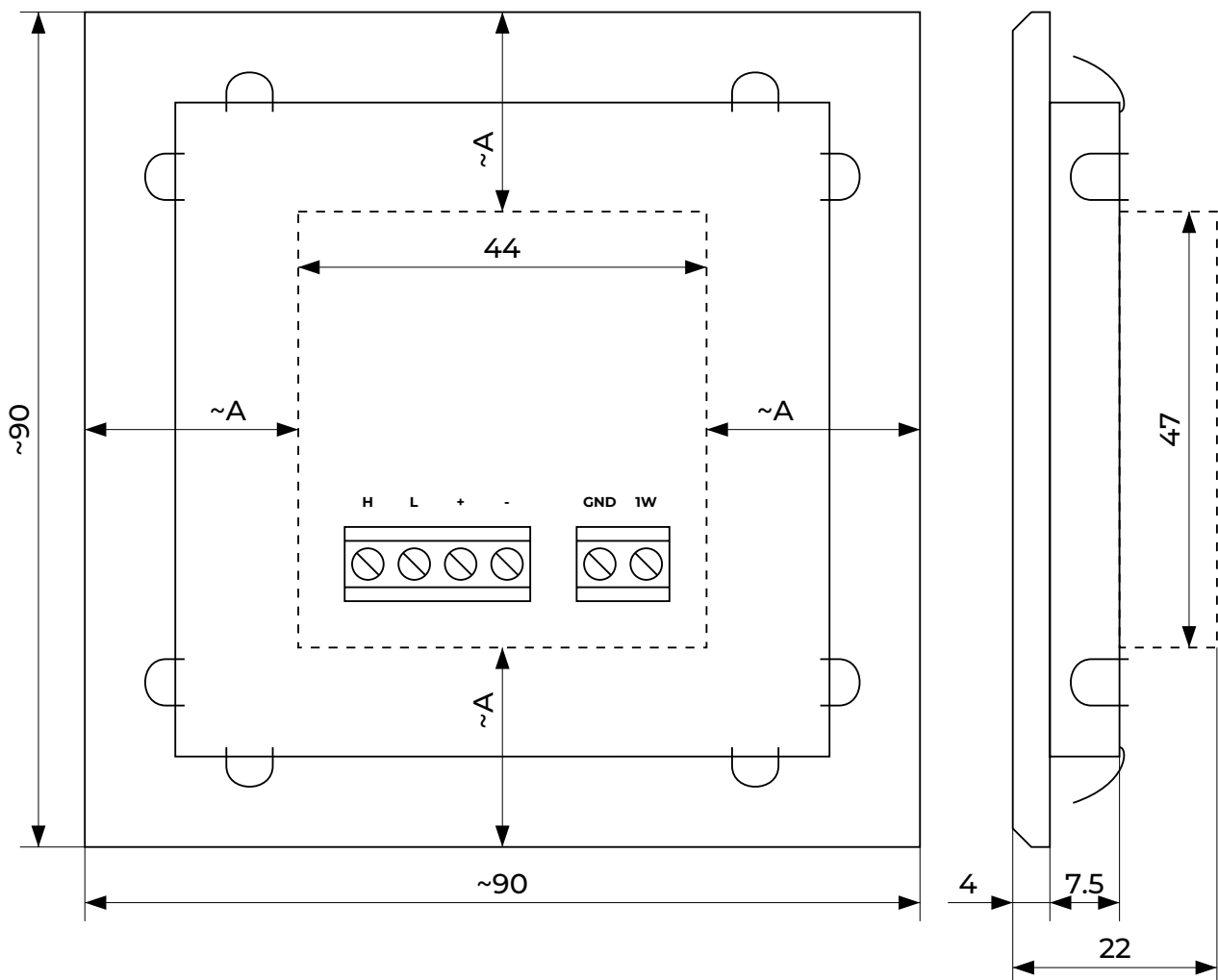
Module dimensions

Dimensions expressed in millimeters.

The panel consists of a glass front and a body with connectors and mechanical interfaces meant for mounting with the use of mounting plates or surface frames. The body is mounted in the center of the rear surface of the glass front with a margin of error appropriate for the production process.

The exact dimensions of the module front depend on the variant of the glass edge finish selected when placing an order.

In the dimensions diagram, the dashed line marks the area where the connectors of the device and its other elements protruding from the body are located. The outline of this area corresponds to the central opening in mounting plates and frames for panels. In the actual module, the CAN bus and 1-Wire interface connectors may be located in a different place than in the figure below, but within the marked area.



Connection diagram

The location of the device connectors on the connection diagram is indicative - in the physical module their location may be different.

