

M-CON-232-s: RS-232 integration module

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Technical data

Supply voltage
11 – 16V DC

Idle current consumption
15mA

Maximum current consumption
20mA

Communication interface
RS-232

Dimensions

Width
35mm, 2 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.

General features

Module M-CON-232-s 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 allows for the integration of devices equipped with an RS-232 communication interface with the Ampio home automation system.

Typical application

- Integration with alarm systems;
- integration with projectors and other display devices;
- integration with audio devices;
- integration with air conditioners and recuperators.

Installation

The module is designed for mounting on a 35mm DIN rail. The module's width is 35mm, 2 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 connector, the device has a connector that provides access to the Rx and Tx lines of the RS-232 interface.

In order to connect to an external device using the RS-232 interface, one must prepare a cable terminated with a connector suitable for the device that is being integrated. The device connection diagram presents a variant of such a connection with a short circuit of the DCD, DTR and DSR lines. Before integration, read the manual of the integrated device to see, if the connection is required by it.

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;
- seven rapid flashes – the device is in bootloader mode; you must load the firmware onto the device.

Apart from the communication bus status LED, there are three red LEDs on the front of the device:

- *ERROR* - indicates a communication error;
- *TX* - indicates that the device is sending data through the RS-232 interface;
- *RX* - indicates that the device is receiving data through the RS-232 interface.

The nature of the *communication error* depends on the specialised firmware variant loaded into the device.

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.

Due to the complexity of the implemented functionalities and the specialised nature of firmware, the M-CON-232-s module is one of the few devices that is not updated automatically. Uploading a new version of the software is possible only manually, i.e. by selecting an appropriate file with the software update.

Unlike most Ampio system modules, the M-CON-232-s module software is specialised, i.e. depending on the intended use case, an appropriate firmware must be loaded to the device.

Specialised software is identified by a file name, the syntax of which is mostly consistent with the adopted nomenclature for Ampio devices' update files. The only difference is that the last two digits of the software version define the purpose of the programme.

The M-CON-232-s module firmware's file name takes the following form:

```
ampio_T25_P[PCB]_S[VER][TYP].amp
```

where:

- [PCB] is the numerical identifier of the module's hardware platform version,
- [VER] is the firmware version,
- [TYP] is the two-character firmware specialisation code.

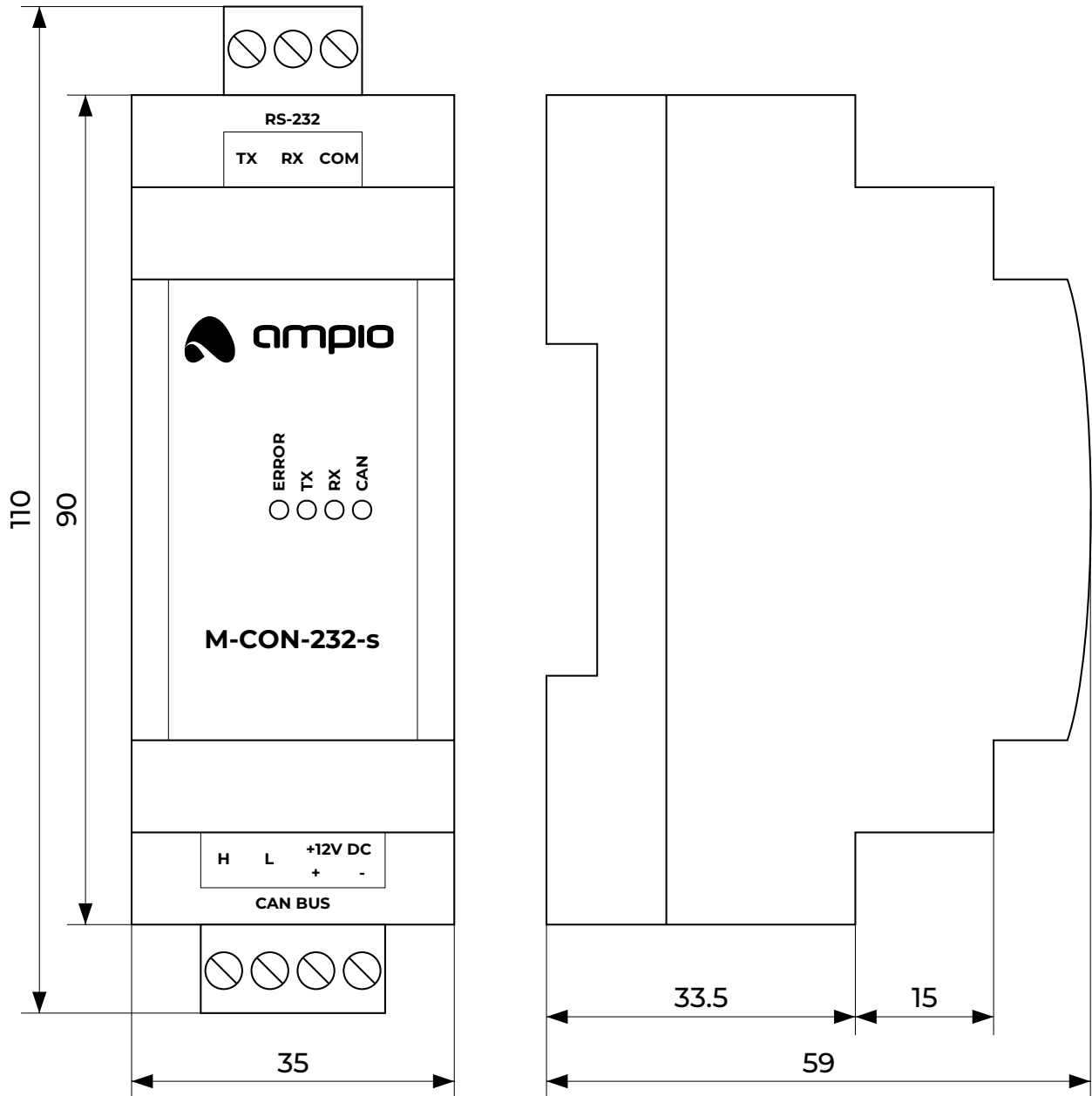
The table below presents the available variants of the M-CON-232-s firmware specialisation:

Specialisation code	Name	Description
01	INTEGRA	Integration with the Satel Integra alarm system.
03	UNI-ONEWAY	General purpose one-way integrations - sending of arbitrary commands.
12	WEKTA-INT	Integration with the Wekta system.

The specialised software files are delivered with the Ampio Designer software.

Module dimensions

Dimensions expressed in millimeters.



Connection diagram

