ETHM-A

Universal monitoring module

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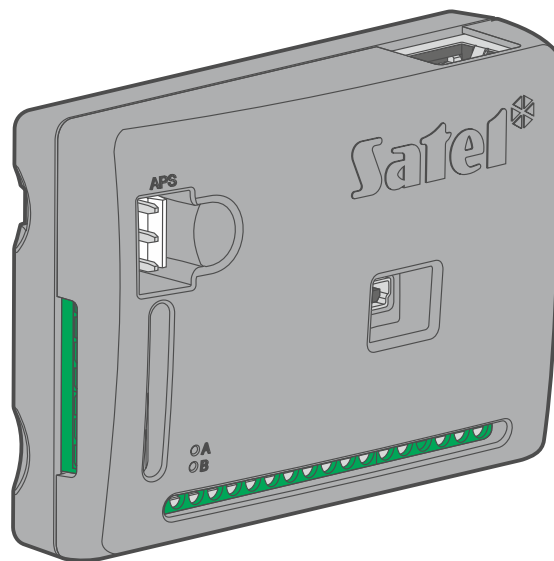
Quick installation guide

Full manual is available on **www.satel.eu**

IMPORTANT

The module should be installed by qualified personnel.

Prior to installation, please read carefully this manual in order to avoid mistakes that can lead to malfunction or even damage to the equipment.

Disconnect power before making any electrical connections.

Changes, modifications or repairs not authorized by the manufacturer shall void your rights under the warranty.

The rating plate of the device is located on the enclosure base.

FreeRTOS is used in this device (www.freertos.org).

SATEL aims to continually improve the quality of its products, which may result in changes in their technical specifications and software. Current information about the changes being introduced is available on our website.
Please visit us at:
https://support.satel.eu

The declaration of conformity may be consulted at www.satel.eu/ce

The following symbols may be used in this manual:

i - note,

⚠ - caution.

This manual describes how the ETHM-A module should be installed. For further information related to the module, including its configuration and operation, please refer to the full version of the manual, available at **www.satel.eu.**

1. ETHM-A module installation

The device is designed to be used only in the local area networks (LAN). It must not be connected directly to the public computer network (MAN, WAN). For establishing connection with public networks, use a router or xDSL modem.

Disconnect power before making any electrical connections.

The ETHM-A module should be installed indoors, in spaces with normal air humidity.

If the module is to comply with requirements of the EN50131 standard for Grade 2, it must be installed in an additional enclosure that will enable it to meet requirements of the tamper standards (e.g. in the SATEL OPU-3 or OPU-4 enclosure).

1.1 Preparing the cabling

To make electric connections between the module and other devices, use an unshielded non-twisted cable. Do not lay the cables in immediate vicinity of the low-voltage electrical network wires, especially those used for supplying the high-power equipment (such as electric motors).

Connect the module to the Ethernet using a 100Base-TX standard compliant cable (identical to that used for connecting computers to the network).

1.2 Installation of the module

The module enclosure base makes it possible to secure the module to the mounting surface by using e.g. a cable tie or angle hooks.

Description of terminals

+12V – power input (12 VDC ±15%).

COM – common ground.

RING, TIP – terminals for connecting the control panel telephone communicator.

S1…S3 – 1-Wire bus (1-Wire digital temperature sensors can be connected to the bus):

    S1 – common ground,

    S2 – data,

    S3 – power supply.

I1…I8 – inputs. They can be programmed as digital (NC or NO type) or analog ones.

O1...O4 – programmable OC type outputs (disconnected from common ground / shorted to common ground).

A RS B – terminals for future use (RS-485).

AC – input for supervision of AC voltage presence or for AC voltage frequency measurement.
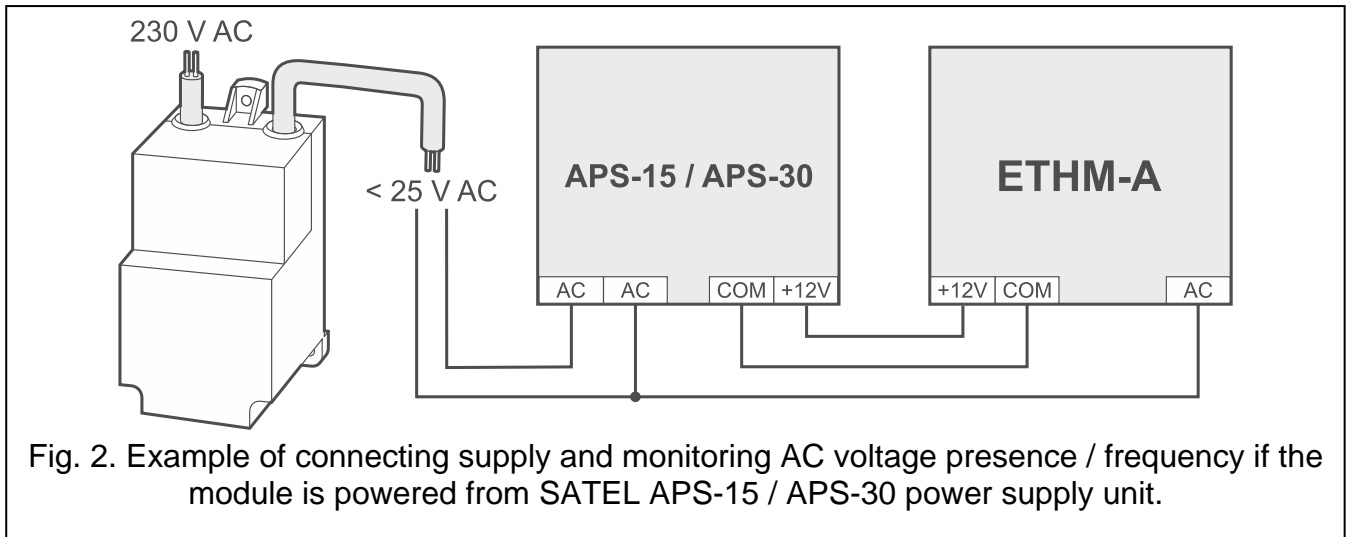
Fig. 1. ETHM-A module.
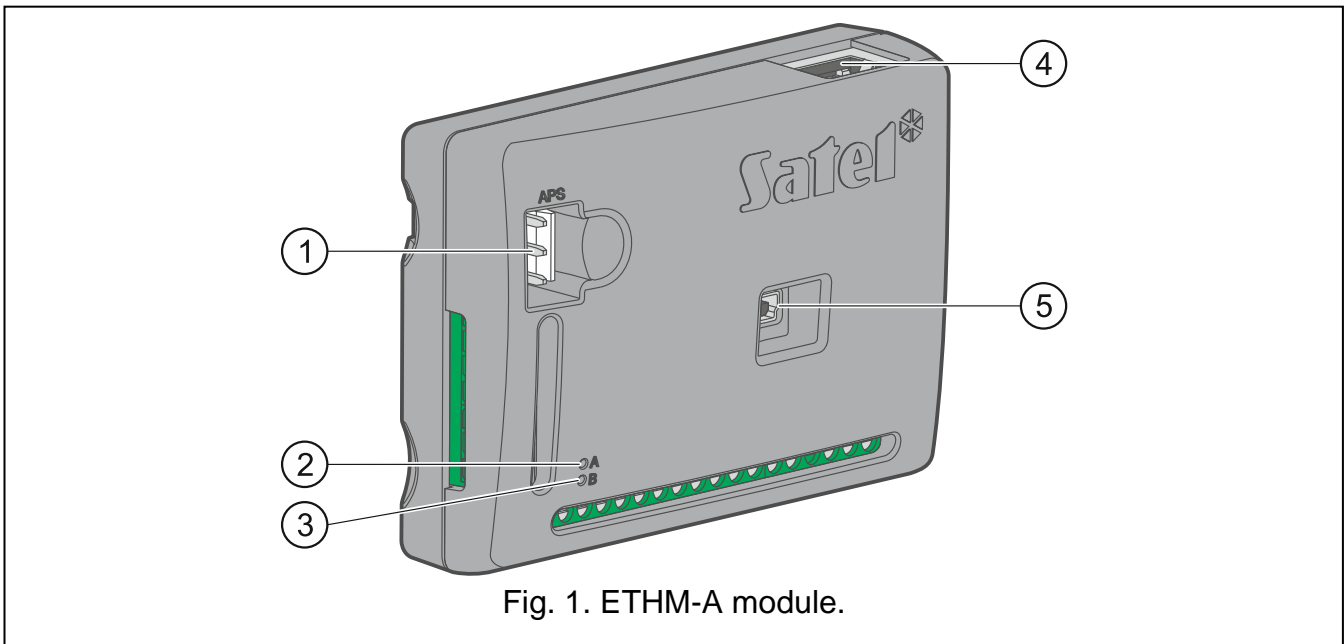
(1) APS connector for a SATEL power supply unit (e.g. APS-412).

(2) LED A:

ON – power OK,

flashing rapidly – communication with GX Soft program or GX Control app in progress.

(3) LED B:

flashing slowly – power OK,

flashing rapidly – data transmission.

(4) RJ-45 connector for Ethernet network. It is provided with two LEDs:

green – ON when the module is connected to the network,

yellow – flashing during data transmission.

(5) USB MINI-B port.

1.3 Connecting the alarm control panel

Connect the control panel telephone communicator to the TIP and RING terminals.

1.4 Connecting the devices to the inputs and outputs

1. Connect the devices whose operation is to be monitored by the module to the input terminals.
2. Connect the devices which are to be controlled by the module to the output terminals.
3. If the module is to be powered from the SATEL APS-15 or APS-30 power supply unit, you can connect to the AC input terminal the wire from the secondary winding of the transformer which supplies the AC voltage to the power supply unit (fig. 2). This will enable the ETHM-A module to supervise the presence of AC voltage or measure its frequency.

Fig. 2. Example of connecting supply and monitoring AC voltage presence / frequency if the module is powered from SATEL APS-15 / APS-30 power supply unit.

1.5 Connecting the digital temperature sensors (1-Wire)

You can connect up to 8 digital temperature sensors to the 1-Wire bus. The length of wires should not exceed 30 meters. If several sensors are to be connected to the bus, it is recommended that you use the distribution box module (MZ-2 or MZ-3).

SATEL offers the **DS-T1** and **DS-T2** waterproof temperature sensors. The **DS-T1** sensors measure temperatures ranging from -35°C to 60°C, while the **DS-T2** – from -40°C to 110°C. They are suitable for indoors or outdoors mounting. The **DS-T1** sensors are designed for surface mounting. They can be secured to the mounting surface with adhesives or screws. The **DS-T2** sensors are designed for flush mounting (they are 6 mm in diameter). The DS-T1 / DS-T2 sensor wires are to be connected to the bus terminals in the following manner:

black wire – terminal S1 (common ground),

green wire – terminal S2 (data),

white wire – terminal S3 (power).

Fig. 3. Dimensions of DS-T1 temperature sensor enclosure.
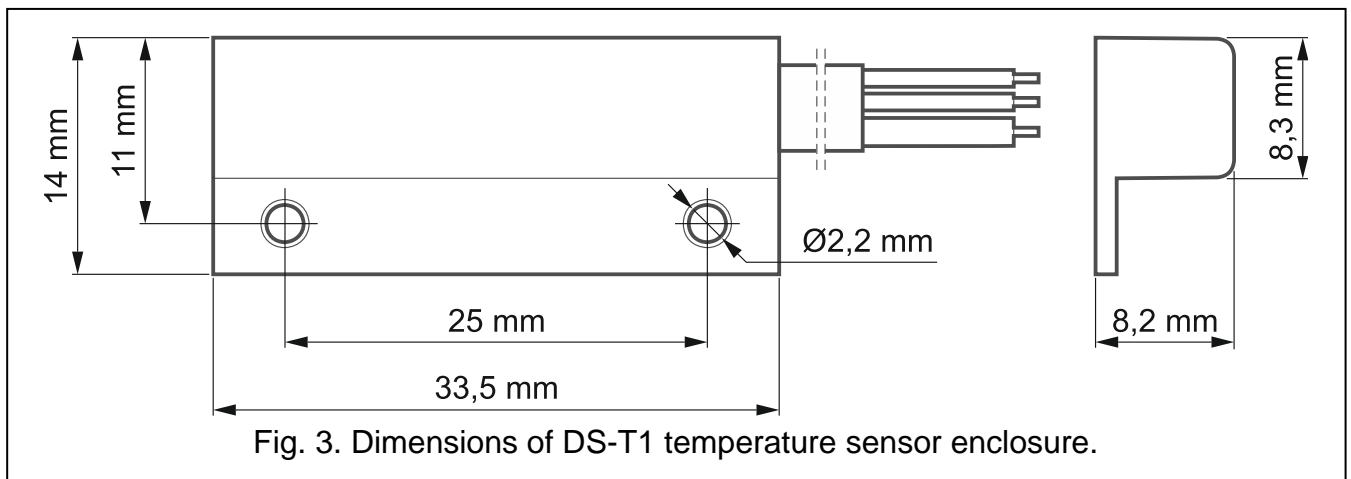
1.6 Connecting the power supply and starting the module

The module may be powered from the control panel, from an expander with power supply, or from a power supply unit. SATEL offers power supplies (e.g. APS-412), which can be connected to the APS connector on the electronics board.

1. Depending on the selected method of module powering, connect the power supply unit to the APS connector or connect the power leads to the +12V and COM terminals

(use flexible conductors with a cross-section of 0.5-0.75 mm^2, or rigid conductors with a cross-section of 1-2.5 mm^2).

⚠ | **Never connect power supply to APS connector and terminals at the same time.**

2. Power up the module. The module will start up.

1.7 Connecting the computer to the module

Connect the computer to the module USB MINI-B connector. Having connected the computer to the module, you can:

- configure the module by using the GX Soft program. Download the GX Soft program from www.satel.eu. Required program version: 2.0 (or newer). See full manual for more information.

- update the module firmware (see full manual).

2. Specifications

Number of inputs...8
Number of outputs (OC type) 4
Supply voltage .... 12 VDC ±15%
Standby current consumption ....60 mA
Maximum current consumption ....80 mA
Maximum permissible voltage on AC input ....25 VAC
Outputs (OC type).. 50 mA / 12 VDC
Environmental class according to EN50130-5 II
Operating temperature range...-10...+55°C
Maximum humidity ....93±3%
Enclosure dimensions... 83 x 60 x 26 mm
Weight...76 g