

EBRAX
ATM SECURITY LLC



SOFTWARE ENGINEERING LABORATORY

M.A.S.S.

MODULAR ATM-SECURITY SYSTEM



May 2019

Overview and Features

The MASS is a security equipment developed to be installed in Automatic Teller Machines (ATMs). Being an anti-skimming solution, the objective of the device is to protect the ATM against attempts of fraud by cloning of magnetic cards and steal of passwords from its owners. In machines equipped with MASS, the fraud is detected in real time. Upon detection, MASS actions include sounding the alarm of the equipment, emission of a jamming signal and disabling critical functions of the ATM, hindering the operation of the fraudulent (skimming) device.

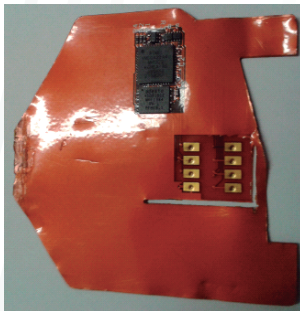
Conventional anti-skimming solutions only monitors around the card reader area, hence preventing only a part of current frauds. MASS, however, is capable of detecting both the standard overlay skimmers and the deep insert ones, making it much more efficient. In this version, the device can monitor up to 6 different areas of the ATM fascia and the internal part of the card reader, granting great coverage of the ATM.

Example of Skimmers:

Overlay Skimmers



Inserção:



The concept of MASS is being a modular solution. In this manner, it can provide the exact solution the customer needs with the smallest number of necessary hardware. Only the modules related to the requested features must be acquired, allowing customers to have an efficient and economical solution for their needs.

In addition, being a modular solution, MASS allows the equipment to be easily upgradeable by the addition of other modules anytime, like ink activation, ATM inclination detection, wall rupture detection, etc.

Currently available modules are:

- ❖ **Control Module;**
- ❖ **Actuator Module;**
- ❖ **Alarm Module;**
- ❖ **Communication Module;**
- ❖ **Overlay Sensor;**
- ❖ **Deep Insert Sensor**

Each module has its exclusive function in the system, communicating with each other using a proprietary encrypted protocol. This allows the MASS to be installed in any part of the ATM, without the need to have any part installed inside the safe.

Module Specifications

All MASS modules and sensors are easily installed. No special tools or any structural/electrical modifications in the ATM are necessary

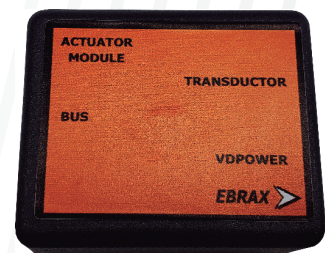
Control Module:

- ❖ Power Supply Input: 12/24Vdc;
- ❖ General module/sensors management;
- ❖ Failure prevention;
- ❖ Sensor adjustment buttons.
- ❖ Can monitor up to 6 overlay and 1 deep insertion sensors
- ❖ Status indicative LEDs;



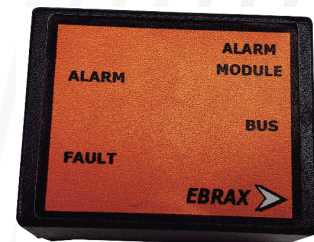
Actuator Module:

- ❖ Signal Jamming Technology;
- ❖ ATM screen / card reader power control;
- ❖ Status indicative LEDs;



Alarm Module:

- ❖ Skimmer detection signaling;
- ❖ System malfunction signaling;
- ❖ Installation failure signaling;
- ❖ Status indicative LEDs;



Communication Module:

- ❖ USB protocol support;
- ❖ Sensors status in real time;
- ❖ Status indicative LEDs;



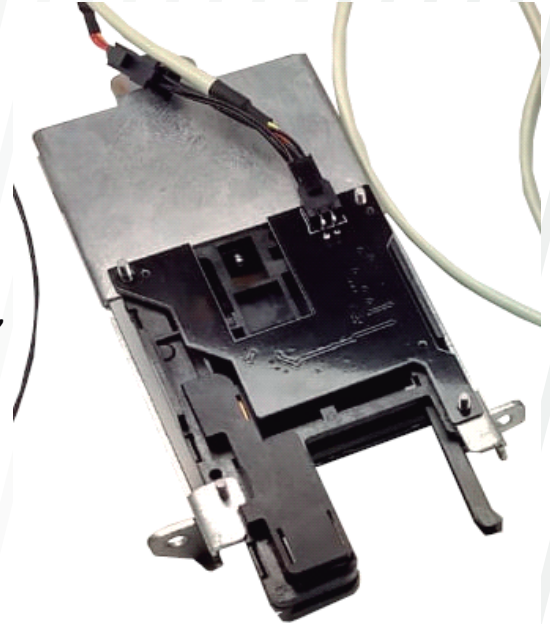
Overlay Sensor (Mass Detection):

- ❖ Alarm temporization customizable;
- ❖ Dip and motorized card readers supported;
- ❖ Can detect any type of mass;
- ❖ Proprietary algorithm that compensates slow environment changes, such as temperature, humidity, dust or mechanical wear.
- ❖ Sensibility and detection levels customizable;
- ❖ Status indicative LEDs;

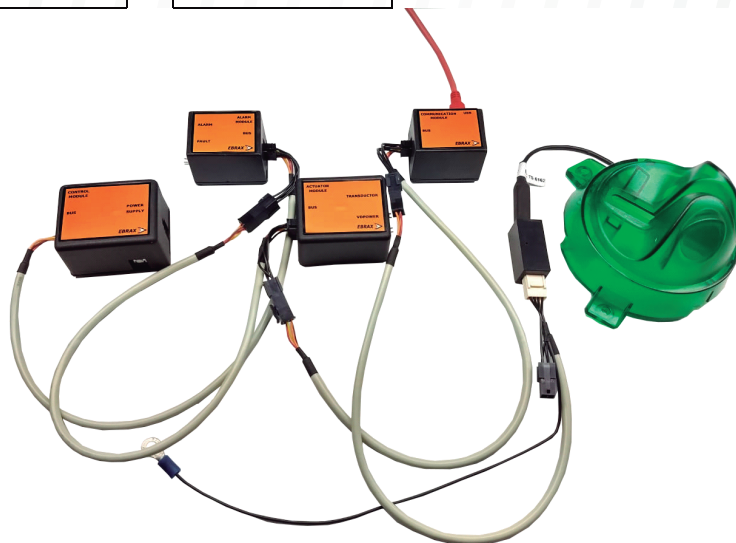
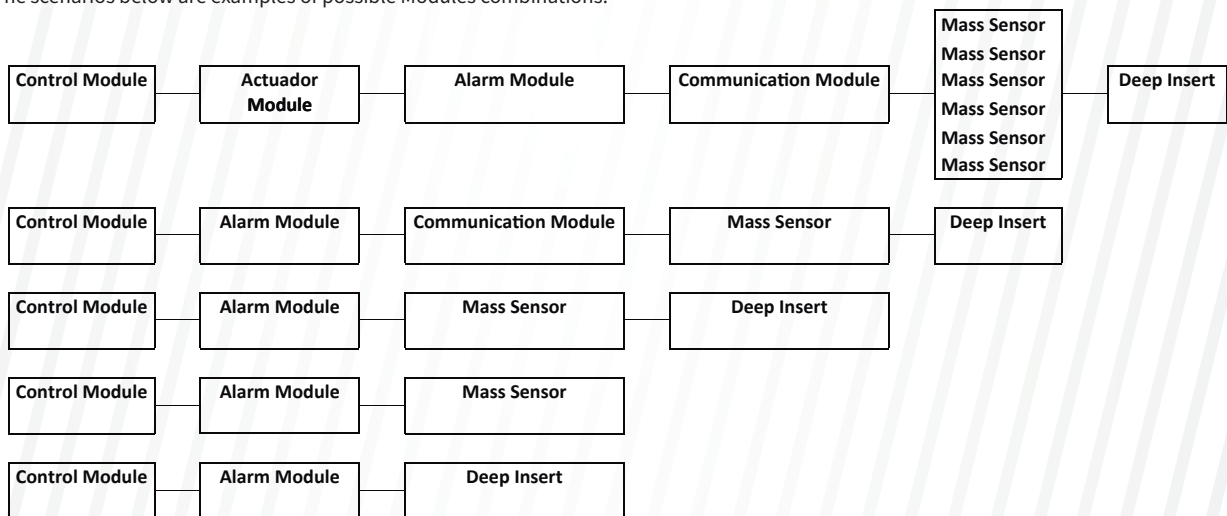


Deep Insert Sensor (Optical Technology):

- ❖ Alarm temporization customizable;
- ❖ Dip and motorized card readers supported;
- ❖ Can detect any type of material;
- ❖ Proprietary algorithm that compensates slow environment changes, such as temperature, humidity, dust or mechanical wear.
- ❖ Sensibility and detection levels customizable;
- ❖ Status indicative LEDs;



The main advantage of the M.A.S.S. is its flexibility and ease of installation as you may connect only the modules needed for the protection level wanted. The scenarios below are examples of possible Modules combinations.



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