Anti-Skimming MultiZone Kit

The Anti-Skimming MultZone Kit is a security equipment developed to be installed in Automatic Teller Machines (ATM). The objective of the kit is to protect the ATM against attempts of fraud by cloning of magnetic cards and stealing Customer passwords.

In machines equipped with the Anti-Skimming MultZone Kit, the fraud is detected in real time, sounding the alarm of the equipment and disabling critical functions of the ATM, such as the ATM screen, hindering the operation of the fraudulent (skimmer) device, jamming it with an electromagnetic field

Ordinary Anti-Skimming solutions usually monitors the presence of skimming devices placed over the magnetic card reader only.

The Anti-Skimming MultZone Kit can monitor up to 15 different areas of the ATM, highly increasing the ATM protection against fraud attempts.

EBRAX
ATM SECURITY LLC

EBRAX
Corp.

Anti-Skimming MultiZone Kit

Anti-Skimming MultiZone Kit´s MAIN COMPONENTS:

- **Control Unit;**
- **Concentrator Unit;**
- **Zone Sensors and respective Antennas;**
- **Jamming System.**
- **Jamming in ATM bezel slot**

The Anti-Skimming MultZone Kit continuously detects the presence of any object placed on the monitored areas. If a change in the monitored environment is detected in any sensed area, Anti-Skimming MultiZone enters in Alert Mode, starting a timer usually set between 3 and 5 minutes. If this condition remains for more than the pre-programmed time, the kit triggers the Alarm Mode, performing the following actions:

- Sound and visual signaling;
- Stopping the video function of the ATM;
- Activating the Jamming System

Main Characteristics

- 12V/24V Supply Voltage (via ATM PSU);
- Supports 12V Battery Backup (not included);
- Dry Contact Alarm Output;
- Alarm Sounding;
- Communication via RS-232 for parameters update;
- Programmable Alarm Time;
- Jamming Technology;
- Supports DIP and motorized card readers;
- Detects any kind of material;
- Controls ATM video power supply;
- Suitable for any ATM Brand;
- Can monitor up to 15 areas;
- Compensates expected environment changes;
- Connectorized system for ease of installation and maintenance;
- Programmable sensibility and trigger levels;

ANTI-SKIMMING MULTIZONE KIT

Qty.	Part Number	Description	Image
1	EBX 1033	**Complete Anti-Skimming MultiZone Kit**	

COMPONENTS: The Standard Anti-Skimming MultiZone Kit contains:

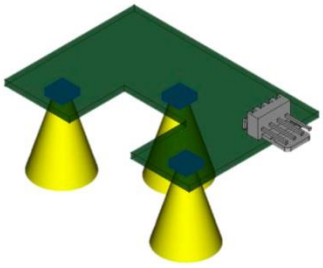
Qty.	Part Number	Description	Image
1	EBX UC 1033	**Control Unit**	
1	EBX AC 0104	**Sensor Simulator**	
1	EBX FA 9013	**Supply Voltage**	
1	EBX CA 4042	**Transducer Cable**	
1	EBX BB 7004C	**Electromagnetic Transducer**	
1	EBX CA 4057	**Alarm Cable**	
1	EBX BT 800X	**VDPower**	
1	EBX CA 4210	**MultiZone Sensor Cable**	
1	EBX SM 6600	**Concentrator Unit**	
1	EBX CA 4220	**Zone Sensor Connection Cable** 2 Antennas	
1	EBX SM 6601	**Zone Sensor**	
1	EBX TS 61XX/ 66xx	**Antenna**	

NEW Product

OPTICAL Sensor

Qty.	Part Number	Description	Image
1	EBX SM 6230	**Optical Sensor**	

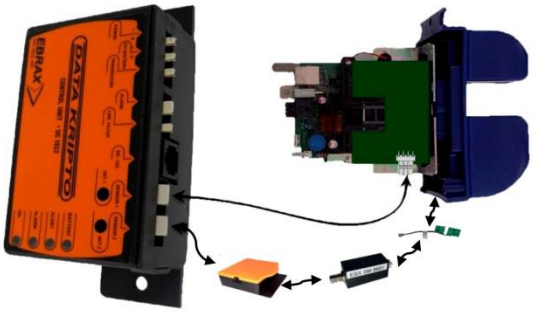
The **EBX SM 6230** is an optical sensor installed inside the ATM card slot, with the aim of avoiding an attempt of fraud by detecting a foreign object (Shimmer) placed inside that card slot.



- Reflective infrared optical solution
- Fraud detection based on variation of reflection levels on three areas along the card slot.
- Self-calibration algorithm reduces false-alarm occurrence
- Compatible with EBX UC 1033 control units
- Does not affect normal reader use
- Provides configurable extra delay before signalizing an alert to the control unit, allowing different alarming times for optical/capacitive sensors

Monitored Areas

Setup (Capacitive + Optical):



CONTROL UNIT

Figure 1 - Control Unit EBX UC 1033

TECHNICAL SPECIFICATION			
Voltage			12V / 24V
Alarm Time			0 a 999 seconds
Average Current Consumption	**Normal Condition**		~ 155mA
	Alarm	**Transducer**	~ 98,5mA
		Sensor	~ 250mA
Firmware Version			v4.2

Table 2 - Control Unit Specification

The control unit is responsible for the interface between the Concentrator Unit and the ATM. It process the signals received and has functionality to activate the alarm, cut the power supply of the video monitor of the terminal and activate the jamming system. The unit is also able to communicate with the monitoring board of the ATM.

❖ Sounding Alarm

Once in alarm mode, the Control Unit automatically activates an internal buzzer of 70dB@10cm.

❖ Video Power Control

The Control Unit can manage the power supply of devices connected to the VDPower. It can be used to turn off the video monitor, once in alarm mode.

❖ Communication with ATM monitoring board

A NC dry-contact is available on the Control Unit to indicate, through a status change (NC->NO), an alarm event.

❖ Adjustment buttons

There are two adjustment (calibration) buttons installed on the Control Unit, each one correlated to its respective sensor. The button is placed in a lower level than the Control Unit external wall. This positioning was defined to avoid any accidental adjustment.

CONCENTRATOR UNIT

Figure 2 - Concentrator Unit EBX SM 6600

TECHNICAL SPECIFICATION	
Supply Voltage	10...24 VDC
Current Consumption	< 15mA
Output	OC PNP
Status LED	Naranja

Table 3 - Concentrator Unit Specification

The Concentrator Unit constantly receives data from up to 15 Zone Sensors, process this data and send a signal of the equivalent status to the Control Unit.

It also receives the adjustment signal and manages the calibration process of the Zone Sensors.

ZONE SENSOR

Figure 3 – Zone Sensor EBX SM 660xx

TECHNICAL SPECIFICATION	
Supply Voltage	7.5V DC
Current Consumption	<12 mA
Output	Proprietary Protocol
Status LED	Verde

Table 4 – Zone Sensor Specification

The Zone Sensor is capable of detecting capacitance changes on an Antenna connected to it.

Through a proprietary protocol, it sends the status of its measured level to the Concentrator Unit. Each Zone Sensor has a unique address (differentiated by it Part Number), so the Concentrator Unit can differ which Zone Sensor has activated.

The Zone Sensor has an algorithm that compensates small and slow changes on the environment, mitigating the occurrence of false alarms.

ELECTROMAGNETIC TRANSDUCER

Figure 4 – Electromagnetic Transducer EBX BB 7004

Once in alarm mode, the jamming system is activated, generating random magnetic fields on the skimmer area.

These magnetic fields interfere on the skimmer operation, making the information collected by the skimmer very different from the real information contained on consumer's cards.

VD POWER

Figure 5 – VDPower EBX BT 800X

The VDPower is responsible for turn the video monitor on and off, depending on the command sent by the Control Unit.

ANTENNAS

Figura 6 antenna example EBX TS 61XX/ 66XX

The Antenna is the electrode connected to the Zone Sensor.

It usually have different formats, being adjusted and adapted to the area being monitored.

CABLES SUPPLIED IN THE EBRAX MULTIZONE KIT

TRANSDUCER CABLE

Figure 7 – Transducer Cable EBX CA 4042

The Transducer Cable connects the Control Unit to the Electromagnetic Transducer.

ALARM CABLE

Figure 8 – Alarm Cable EBX CA 4057

The Alarm Cable connects the NC Control Unit dry-contact to the ATM monitoring board.

MULTIZONE SENSOR CABLE

Figure 9 - MultiZone Sensor Cable EBX CA 4210

The MultiZone Sensor Cable connects the Control Unit to the Concentrator Unit.

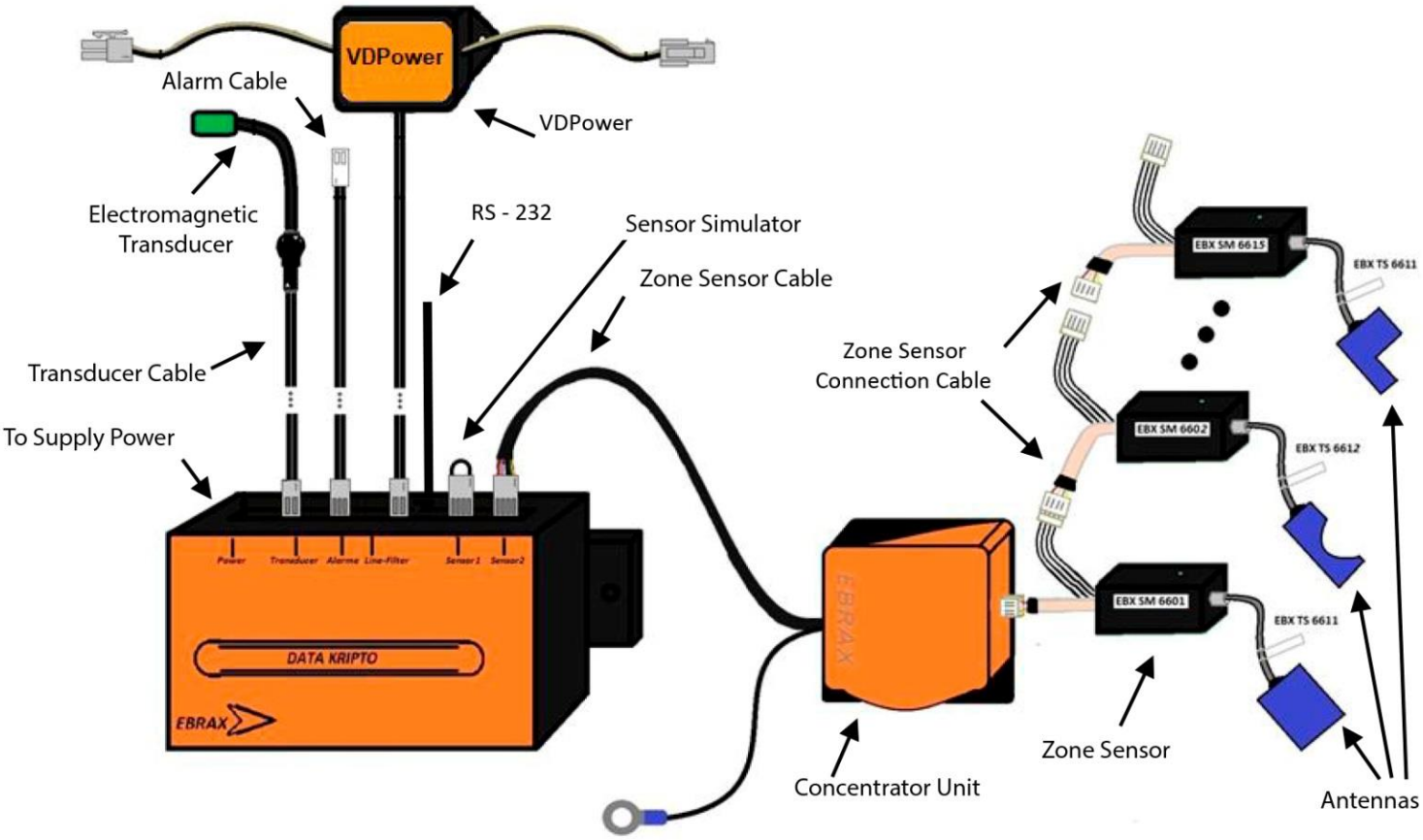
ZONE SENSOR CONNECTION CABLE

Figure 10 – Zone Sensor Connection cable EBX CA 4220

The Zone Sensor Connection Cable connects the Concentration Unit to the Zone Sensors

Table 5 – Cables Supplied in the Ebrax MultiZone Kit

CONECTION DIAGRAM



ANTI-SKIMMING SENSOR COMPARISON TABLE

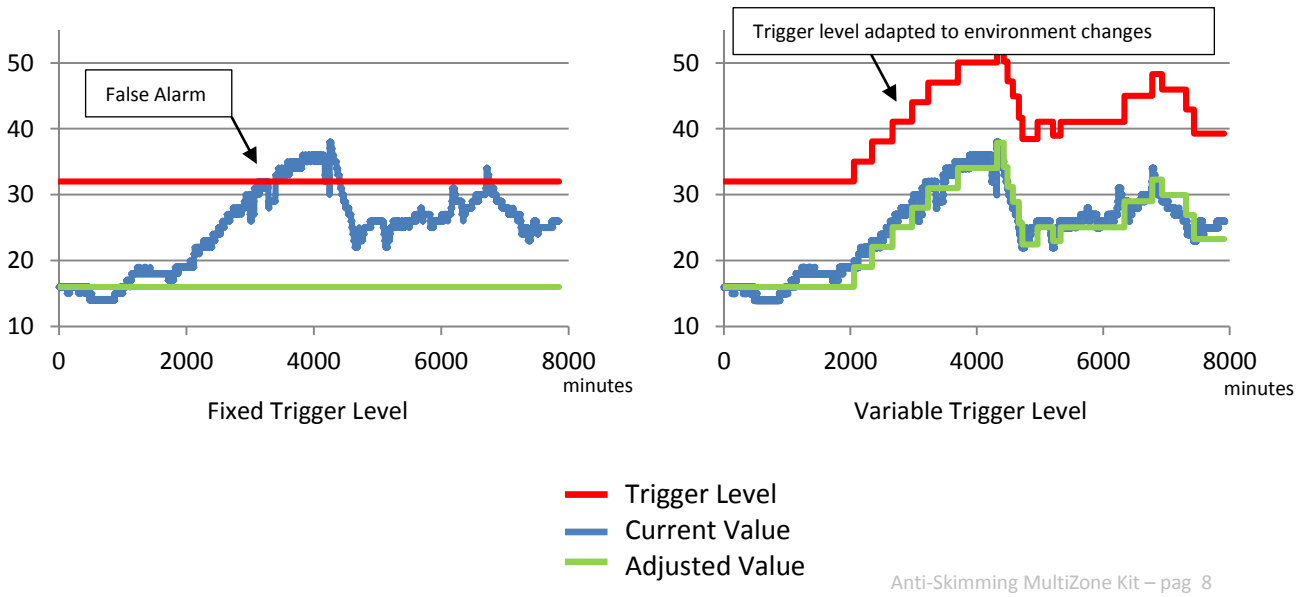
- Comparison between the sensor used previously and the new Capacitive Sensor with Variable Activation Level

	Version 1 Cilindric Capacitive Sensor	Version 2 Cubic Capacitive Sensor
		
Sensing Technology	Capacitive	Capacitive
Supply Voltage	12V/24V	12V/24V
Antenna Connectivity	SMA Connector	SMA Connector
Status LED	Yes	Yes
Compatibility	KIT EBX 1031 KIT EBX 1032 KIT EBX 1033	KIT EBX 1031 KIT EBX 1032 KIT EBX 1033
Ground Connection	Through Cable	Not needed
Monitored Areas	01	Up to 15
Trigger Level	**Fixed**	**Variable***

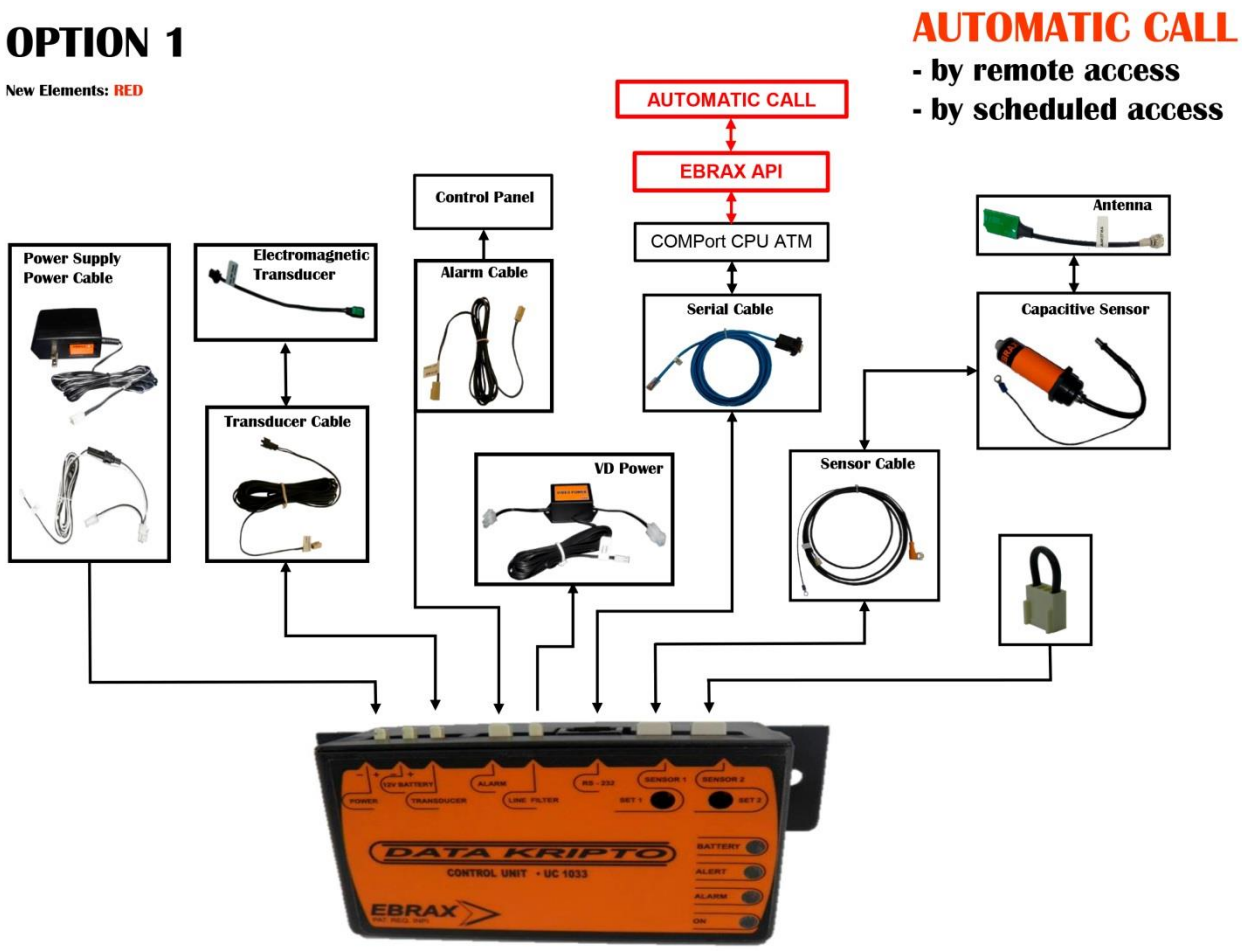
* Immunity to gradual environment changes

The variable trigger level improves the overall stability due to its capability of adapting the system levels under small and gradual environment changes.

The graphs below illustrates the difference between Fixed and Variable Trigger levels under the same environment changes.



REMOTE CALIBRATION



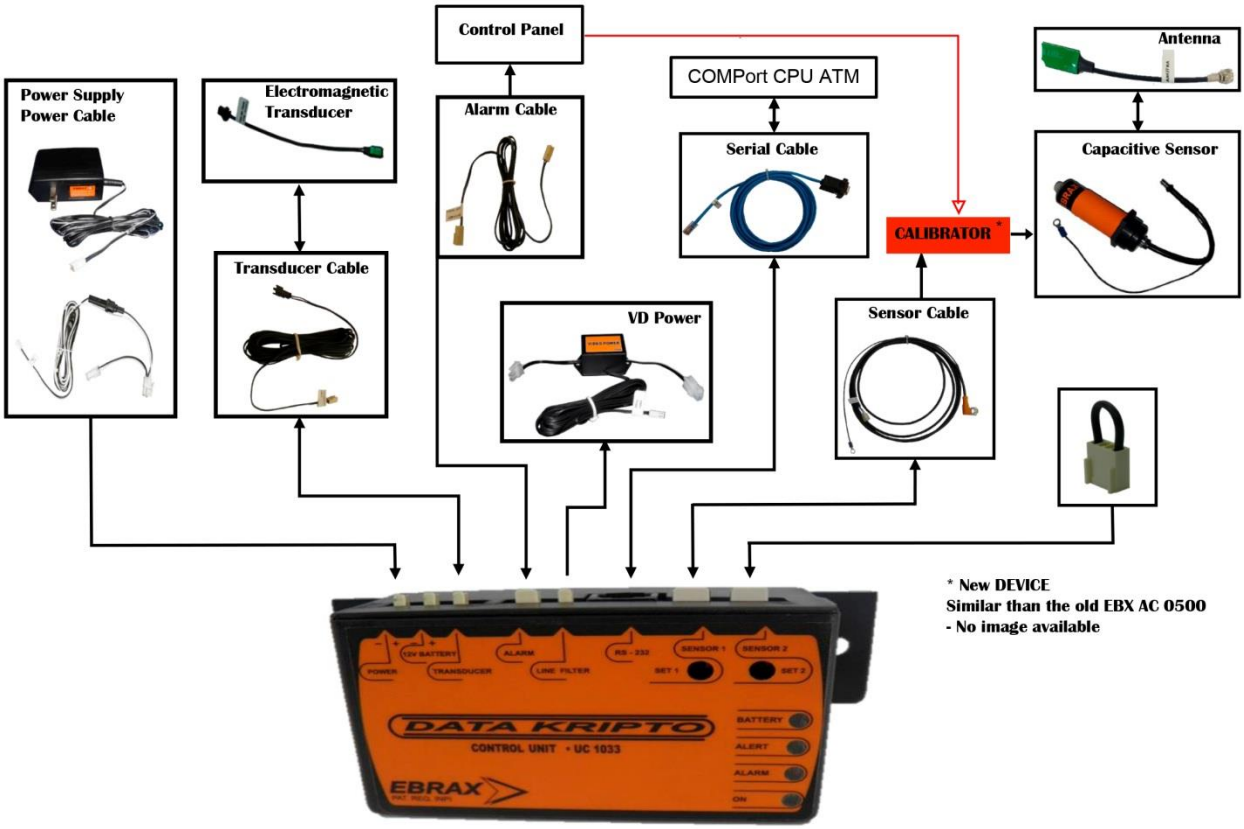
In **OPTION 1**, the Anti-skimming kit is continuously connected to a serial port on the ATM's computer.

Whenever you want to do a calibration on the sensor, an EBRAX API must be called.

This API sends through the serial port a calibration command for the control unit that calibrates the sensor.

OPTION 2

New Elements: RED



In **OPTION 2**, a calibrating device is added to the system.

This calibrator device receives a signal (a contact) from the alarm panel of the cashier and carries out the calibration of the sensor