



*Go Green & Secure*

# A solution to ATM Energy and Security Management

# The Model



# Sensors

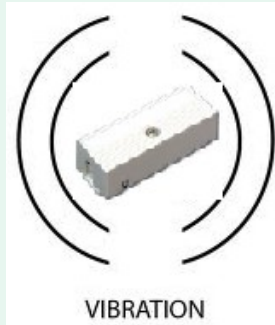


Monitor the temperature and turn OFF / ON Air Conditioner.



Smoke Detector.

Can activate Siren.



Vibration Sensor from ATM. Any shock – like banging, hammering triggers this.

Can activate Siren.



Passive Infrared Sensor (PIR) to detect movement and Turn ON Light, image capture.

# Sensors



## Shutter Sensors

Detects the shutter status – fully open, half open, closed



## Door Sensors.

Front Door : To record data & on opening turn ON light  
Ante Room Door : To record data



3 Phase incoming Power Line and UPS Power output Phase detection



## ATM Current Measurement

To identify whether ATM used

# Sensors



UPS

Battery Voltage. To manage ATM usage time



RFID

To authorize entry

# Controls



## Air Conditioner

Supports time based setting mode and automatic temperature based mode.



## Lighting

Turn ON when PIR / Front Door detected and Turn OFF after X minutes.



## Signage

Time based Signage ON/OFF



## Siren

On Vibration detection, Smoke Detection



## Restart ATM

# Monitoring



## Call Center

Triggers alert based on business rules for action



## Speaker & Microphone

Call & speak to people on ATM room

# Installation





# Installation



# Advantages

1. Vandalism can be identified faster.- Vibration sensor.
2. Identify ATM worked when the customer was inside.
3. ATM can be reset remotely.
4. ATM can be switched off in the night.
  - Auto turn on ATM if any one visits at unusual times.
5. ATM ON/BOOTING/OFF indicator out side ATM.
6. Energy saving by switching off Air conditioner and most lights and Signage.
7. Service personnel's logging using RFID card.
8. Call centre can listen/communicate to persons in ATM room
9. Fire Alarm for safety.
10. UPS battery monitoring for better ATM usage
11. Online Image Capture
12. Remotely configurable

# What more can be done?

## ATM Cash compartment

1. Add optical/ultrasonic/door switch sensor
  1. Authenticate valid opening of cash compartment with RFID
2. Cash Empty/ATM down indication
3. Affixing a camera near entry door - possible detection of any skimmer by image processing
4. Additional Camera for outdoor monitoring
5. Dual GSM Module for simultaneous Voice/Data/Image

# Common Questions

1. Vandalism with darkened / masked persons
  1. *CPU vandalism will trigger Vibration and No ATM operation detected*
  2. *Theft of cash compartment – by detecting cash door opening and validating with authorized RFID access*
2. Image capturing frequency
  1. *3G dynamic video – expensive, limited results*
  2. *Dual GSM can get upto 10 frames per minute*
  3. *Store & forward images on triggers- upto 2 frames per second*
3. Redundancy
  1. *External watchdog and system monitoring by the 2<sup>nd</sup> GSM module.*

# Common Questions

## 4. Public Safety

- 1. Panic switch can be given and triggered when customer is inside for longer duration  
(example : if after 5 minutes of door closing the panic switch is pressed – could have helped Bangalore incident)*

## 5. Insider vandalism / theft

- 1. Any opening of CPU/ cash compartment to be authorized by RFID*
- 2. Ante Room opening – also by authorized RFID*
- 3. Tamper indication of Control Panel*
- 4. Any sensor wire/camera disconnection alarm*

# Live Data sample

www.atmdefender.com/rawdatareportdecodedprocess.php

Data for ATM: BTI-Gubbi , Date: 2014-04-28 , Filter : AllData , No of Records:2076 , No of Images:1884

| SNo  | Type | Time     | Batt    | ATM-   | RFID No | Temp | UPS    |         |    |     |    | ATM Status |     | Doors |      |    |    | Sensors |    |      | Relays |      |    |     |    |
|------|------|----------|---------|--------|---------|------|--------|---------|----|-----|----|------------|-----|-------|------|----|----|---------|----|------|--------|------|----|-----|----|
|      |      |          |         | In-Use |         |      | Deg C  | Voltage | AC | ATM | L1 | L2         | Sig | CPU   | Cash | Fr | An | ST      | SB | Vibr | PIR    | Fire | AC | ATM | L1 |
| 2076 | NRML | 23:59:36 | 1,4.1 V | 0.2864 |         | 32.3 | 43.0 V | 0       | 1  | 0   |    | 0          | 0   | 0     | 0    | 1  | 1  | 1       | 1  | 0    | 1      | 1    | 0  | 0   | 0  |
| 2075 | NRML | 23:58:55 | 1,4.2 V | 0.2872 |         | 32.5 | 42.2 V | 0       | 1  | 0   |    | 0          | 0   | 0     | 0    | 1  | 1  | 1       | 1  | 0    | 1      | 1    | 0  | 0   | 0  |
| 2074 | NRML | 23:58:20 | 1,4.2 V | 0.2904 |         | 33   | 40.7 V | 0       | 1  | 0   |    | 0          | 0   | 0     | 0    | 1  | 1  | 1       | 1  | 0    | 1      | 1    | 0  | 0   | 0  |
| 2073 | NRML | 23:57:44 | 1,4.2 V | 0.2712 |         | 32.9 | 41.5 V | 0       | 1  | 0   |    | 0          | 0   | 0     | 0    | 1  | 1  | 1       | 1  | 0    | 1      | 1    | 0  | 0   | 0  |
| 2072 | NRML | 23:56:42 | 1,4.2 V | 0.3688 |         | 33.3 | 41.7 V | 0       | 1  | 0   |    | 0          | 0   | 0     | 0    | 1  | 1  | 1       | 1  | 0    | 1      | 1    | 0  | 0   | 0  |
| 2071 | NRML | 23:55:54 | 1,4.2 V | 0.3624 |         | 33.2 | 39.0 V | 0       | 1  | 0   |    | 0          | 0   | 0     | 0    | 1  | 1  | 1       | 1  | 0    | 1      | 1    | 0  | 0   | 0  |
| 2070 | NRML | 23:55:20 | 1,4.2 V | 0.4032 |         | 31.3 | 38.3 V | 0       | 1  | 0   |    | 0          | 0   | 0     | 0    | 1  | 1  | 1       | 1  | 0    | 1      | 1    | 0  | 0   | 0  |
| 2069 | NRML | 23:54:37 | 1,4.2 V | 0.4232 |         | 33.9 | 41.4 V | 0       | 1  | 0   |    | 0          | 0   | 0     | 0    | 1  | 1  | 1       | 1  | 0    | 1      | 1    | 0  | 0   | 0  |
| 2068 | NRML | 23:54:03 | 1,4.2 V | 0.2816 |         | 32.9 | 41.2 V | 0       | 1  | 0   |    | 0          | 0   | 0     | 0    | 1  | 1  | 1       | 1  | 0    | 1      | 1    | 0  | 0   | 0  |
| 2067 | NRML | 23:53:28 | 1,4.2 V | 0.3088 |         | 31.9 | 39.0 V | 0       | 1  | 0   |    | 0          | 0   | 0     | 0    | 1  | 1  | 1       | 1  | 0    | 1      | 1    | 0  | 0   | 0  |
| 2066 | NRML | 23:52:49 | 1,4.2 V | 0.3944 |         | 32.2 | 42.8 V | 0       | 1  | 0   |    | 0          | 0   | 0     | 0    | 1  | 1  | 1       | 1  | 0    | 1      | 1    | 0  | 0   | 0  |
| 2065 | NRML | 23:52:06 | 1,4.2 V | 0.2904 |         | 29.4 | 40.9 V | 0       | 1  | 0   |    | 0          | 0   | 0     | 0    | 1  | 1  | 1       | 1  | 0    | 1      | 1    | 0  | 0   | 0  |
| 2064 | NRML | 23:51:15 | 1,4.2 V | 0.2752 |         | 31.8 | 39.2 V | 0       | 1  | 0   |    | 0          | 0   | 0     | 0    | 1  | 1  | 1       | 1  | 0    | 1      | 1    | 0  | 0   | 0  |
| 2063 | NRML | 23:50:27 | 1,4.2 V | 0.2856 |         | 31.2 | 43.0 V | 0       | 1  | 0   |    | 0          | 0   | 0     | 0    | 1  | 1  | 1       | 1  | 0    | 1      | 1    | 0  | 0   | 0  |
| 2062 | NRML | 23:49:53 | 1,4.2 V | 0.3928 |         | 33.2 | 40.6 V | 0       | 1  | 0   |    | 0          | 0   | 0     | 0    | 1  | 1  | 1       | 1  | 0    | 1      | 1    | 0  | 0   | 0  |
| 2061 | NRML | 23:49:18 | 1,4.2 V | 0.2848 |         | 30.4 | 39.3 V | 0       | 1  | 0   |    | 0          | 0   | 0     | 0    | 1  | 1  | 1       | 1  | 0    | 1      | 1    | 0  | 0   | 0  |
| 2060 | NRML | 23:48:41 | 1,4.0 V | 0.2792 |         | 33.2 | 40.2 V | 0       | 1  | 0   |    | 0          | 0   | 0     | 0    | 1  | 1  | 1       | 1  | 0    | 1      | 1    | 0  | 0   | 0  |
| 2059 | NRML | 23:48:06 | 1,4.0 V | 0.2672 |         | 31.7 | 37.9 V | 0       | 1  | 0   |    | 0          | 0   | 0     | 0    | 1  | 1  | 1       | 1  | 0    | 1      | 1    | 0  | 0   | 0  |
| 2058 | NRML | 23:47:30 | 1,4.0 V | 0.4032 |         | 30.1 | 39.3 V | 0       | 1  | 0   |    | 0          | 0   | 0     | 0    | 1  | 1  | 1       | 1  | 0    | 1      | 1    | 0  | 0   | 0  |
| 2057 | NRML | 23:46:49 | 1,4.0 V | 0.3328 |         | 33.3 | 41.8 V | 0       | 1  | 0   |    | 0          | 0   | 0     | 0    | 1  | 1  | 1       | 1  | 0    | 1      | 1    | 0  | 0   | 0  |
| 2056 | NRML | 23:46:15 | 1,4.0 V | 0.4064 |         | 32   | 37.7 V | 0       | 1  | 0   |    | 0          | 0   | 0     | 0    | 1  | 1  | 1       | 1  | 0    | 1      | 1    | 0  | 0   | 0  |
| 2055 | NRML | 23:45:40 | 1,4.0 V | 0.3264 |         | 30.7 | 43.3 V | 0       | 1  | 0   |    | 0          | 0   | 0     | 0    | 1  | 1  | 1       | 1  | 0    | 1      | 1    | 0  | 0   | 0  |

# Live Images

www.atmdefender.com/viewimage\_show.php?type=N&page=2&hdnUserID=2&txtFromDate=08-01-2014&txtToDate=08-01-2014&txtFromTime=08:00

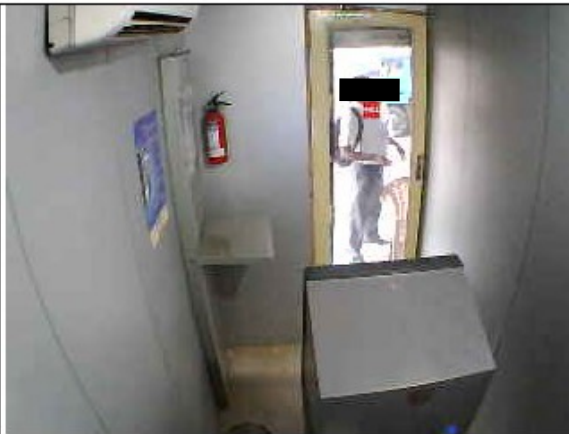
[Home](#) [My Account](#) [DashBoard](#) [Configure](#) [Reports](#) [Logout](#)

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View Images for : 08-01-2014 To : 08-01-2014 Vehicle Name : BTI-Gubbi Total Number of images : 1121



2014-01-08 08:02:51



2014-01-08 08:03:19



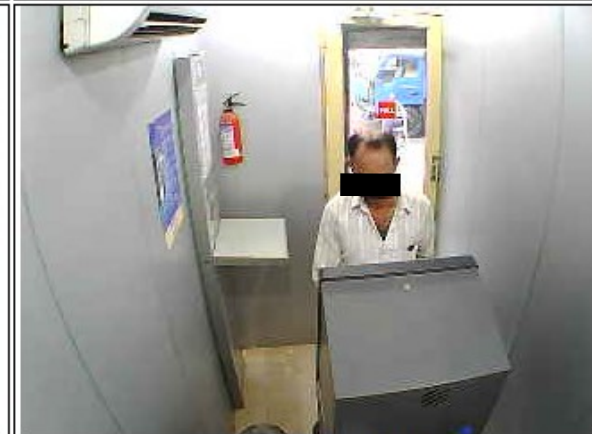
2014-01-08 08:03:44



2014-01-08 08:04:14



B02E,1163,10993936,30,20140108080446, 353, 246,41359,00,020D0400060203... 8 08:05:17



6 ▾ Shift

First

Previous

Next

Last