



Realty Automation & Security Systems Pvt. Ltd.

CASE STUDY

Objective: To Provide Cost Effective, simplified Solution for Commercial Complexes & Apartment Buildings

Target Customers: The document is to be circulated to only System Integrators. Pricing mentioned is strictly budgetary in nature.

Objective

Objective of this document is to propose a cost effective solution yet with advanced technology for Commercial & Residential Buildings.

Background of this document

As per National Building Code (NBC) all Commercial Buildings like hotels, hospitals, malls having floor area of 5000Sqft and above and residential buildings with height of 45mtrs and above are to be fitted with Automatic Fire Alarm System (Please note that this covers general requirements. For more specific requirements, kindly refer to NBC document).

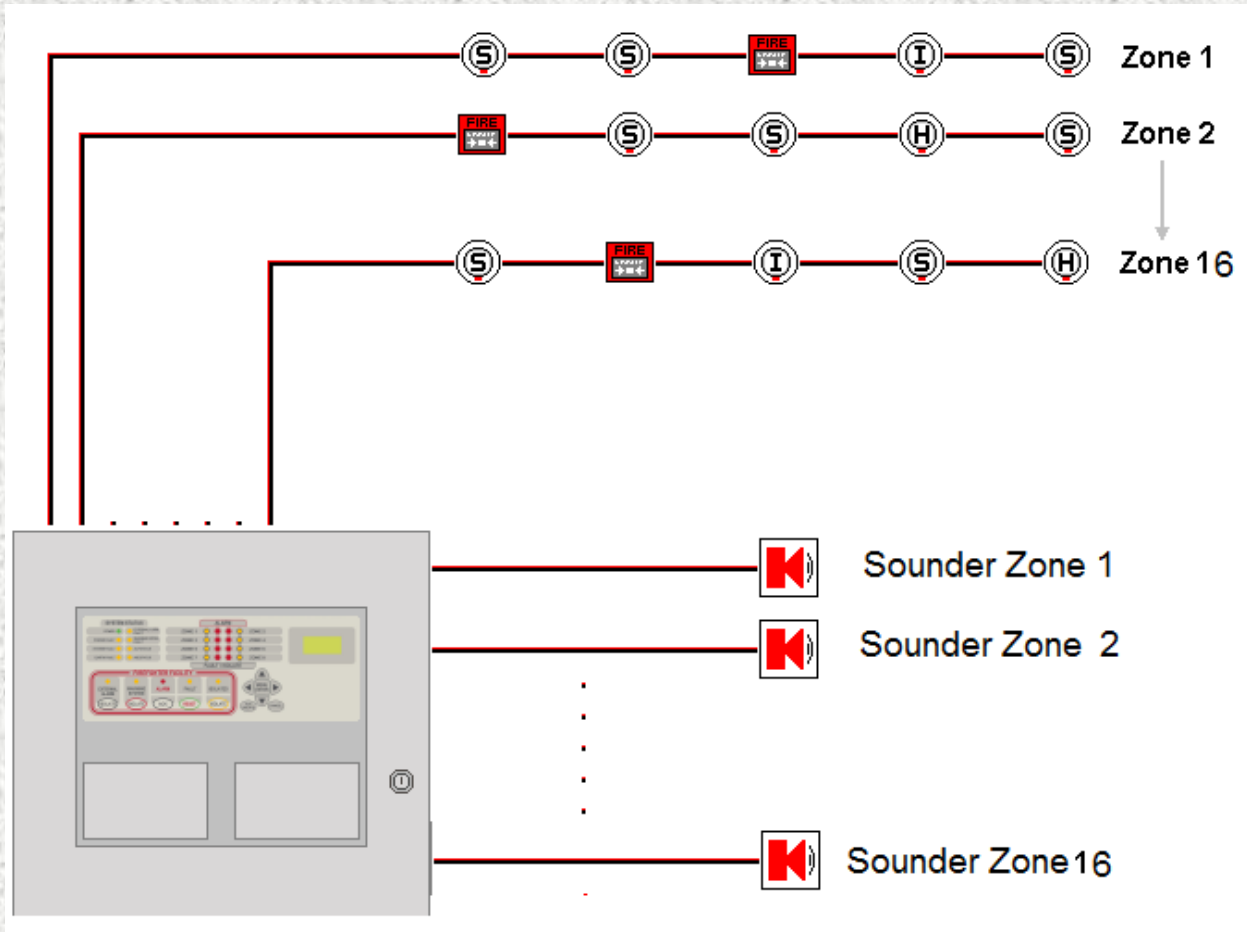
At present conventional fire alarm systems with multiple zones are being used. Conventional systems require separate cable for each zone and sounder. Addressable technology makes it feasible to provide cost effective yet simple to wire solution. Following sections compare conventional and addressable solutions. Addressable system reduces wiring and provide benefits of the latest technology.

Solution 1:- Conventional Fire Alarm System

Introduction:-

Conventional Fire Alarm system is being used since long time in the world for Fire detection. Generally, this is a simple system which uses smoke detectors as input to Control Panel i.e conventional Fire alarm Panel & which triggers output devices like Sounders after the detection of smoke or heat.

Schematic Diagram for Conventional Fire Alarm System



Let's consider a case where in a Real Estate Apartment / Commercial Project having **3 basements for parking, Ground Floor & 12 floors (G+12)** building where there will be detectors & Sounders in the lobby of each floor

Following BOQ is required:-

Sr. No.	Product Description	Qty
1	16 Zone conventional Panel	1
2	Zonewise Relay Contact Box	1
3	Zonewise Sounder Box	1
2	Smoke Detectors	80
3	Sounders	16
4	Manual Call Point	16
5	Cable & Labour	At actual

The solution approximately costs as below.

Sr. No.	Product Description	Qty	Rate (Rs.)	Amount
1	16 Zone Panel	1	15,500	15,500
2	Zonewise Relay Contact Box	1	7,550	7,550
3	Zonewise Sounder Contact Box	1	7,550	7,550
	GSM Dialler	1	5,500	5,500
2	Smoke Detectors for B3+B2+B1+G Floor	20	750	15,000
3	Smoke detectors from 1st floor upto 12 th floor	60	750	45,000
4	Flasher Sounders	15	400	6,000
5	MCP	15	400	6,000
6	Cable, saddle, screws and labour	700	120	84,000
			Total	1,92,100

In this case the wire will be pulled from Panel installed at ground floor to every floor till 12th floor and also to basements to connect to detectors and there will be separate wire to be pulled to connect sounders to every floor. The wiring cost along with labor charges will be around Rs.84,000.00.

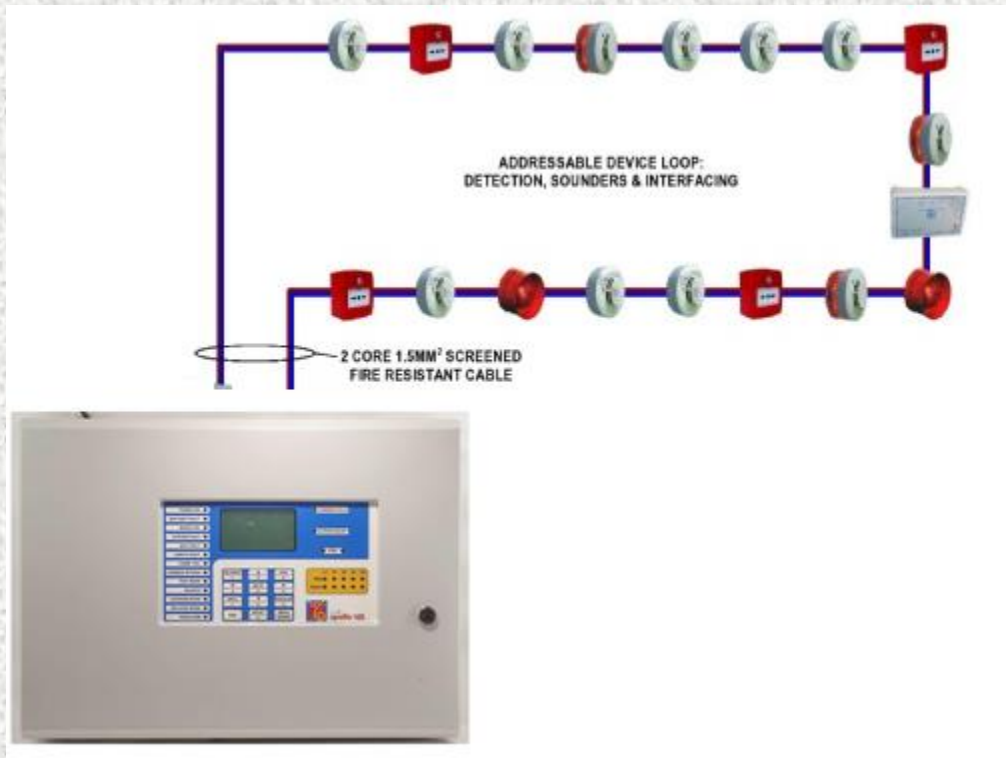
Solution 2: Addressable Fire Alarm System

Introduction:-

Addressable Fire Alarm system is nowadays very popular Fire Detection system in the world. The basic principle is same to detect fire and trigger the Alarm / Sounder but it is an intelligent FAS in which every detectors has a particular address & it is synced with the Control Panel (i.e Addressable control Panel). After detecting smoke or fire the control panel understands the address of detectors which help the person to locate where exactly fire / smoke has been identified.

In present case in order to save cost conventional detectors, MCPs and sounders are used to save cost. Main objective is to save on wiring. The solution uses Addressable Floor Module on each floor.

Schematic Diagram for Addressable Fire Alarm System



Let's consider the same case again where in a Real Estate Apartment / Commercial Project having **3 basements for parking, Ground & 12 floors** building where there will be detectors & Sounders in the lobby of each floor

BOQ:-

Sr. No.	Product Description	Qty
1	V.25 Addressable Fire Alarm Panel with GSM Connectivity	1
2	Addressable Floor Modules	1
3	Smoke Detectors	80
4	Sounders	15
5	Manual Call Point	15
6	Cable	350

After studying the BOQ the solution will be given is as follows

Sr. No.	Product Description	Qty	Rate (Rs.)	Amount
1	V. 25 Addressable Fire Panel	1	21,500	21,500
2	Addressable Floor Module	12	3,700	44,400
3	Smoke Detectors for B3+B2+B1+G Floor	20	750	15,000
4	Smoke detectors from 1 st floor upto 12 th floor	60	750	45,000
5	Sounders	15	400	6,000
6	MCP	15	400	6,000
7	Cable	350	120	42,000
			Total	1,79,900

The advantage of using of Addressable fire alarm system is that as all the Floor Modules devices are connected in loop & through each floor modules is the possible to connect 20 conventional detectors then the cost of the cable along with labor charge can be saved considerably. Savings on the cabling cost will be around Rs.42,000.00

Solution 3: Semi Addressable Fire Alarm System

Introduction:-

Semi Addressable Fire Alarm system is a most cost effective solution for High Rise Buildings. This system uses Semi Addressable Floor Module (SAFM) Instead of Addressable Floor Module. Each Semi Addressable Floor Module is connected to Conventional Smoke Detectors in the lobby and the duct, MCP and a sounder. All SAFMs are connected to each other sequentially and terminated on Semi Addressable Fire Alarm Panel with 4 Core Cable. When

the smoke is detected or MCP is activated, Fire Detection Panel activates sounder on that particular floor and common sounder.

Schematic Diagram for Semi Addressable Fire Alarm System

Let's consider the same case again where in a Real Estate Apartment / Commercial Project having **3 basements for parking, Ground & 12 floors** building where there will be detectors & Sounders in the lobby of each floor

BOQ:-

Sr. No.	Product Description	Qty
1	V.4 Conventional Fire Alarm Panel with GSM Connectivity	1
2	Semi Addressable Floor Modules	11
3	Smoke Detectors	80
4	Sounders	15
5	Manual Call Point	15
6	Cable	350

After studying the BOQ the solution will be given is as follows

Sr. No.	Product Description	Qty	Rate (Rs.)	Amount
1	V. 4 Conventional Fire Panel	1	12,500	12,500
2	Addressable Floor Module	12	1,500	18,000
3	Smoke Detectors for B3+B2+B1+G Floor	20	750	15,000
4	Smoke detectors from 1 st floor upto 12 th floor	60	750	45,000
5	Sounders	15	400	6,000
6	MCP	15	400	6,000
7	Cable	350	120	42,000
			Total	1,44,500

The advantage of using of Semi Addressable fire alarm system is that as all the Floor Modules devices are connected in series & through each floor module it is the possible to connect 20 conventional detectors then the cost of the cable along with labor charge can be saved considerably. Savings on the cabling cost will be around Rs.42,000.00

Conclusion :-

Solution based on Vighnaharta-Apollo addressable fire alarm panel model V.25 is equally competitive in pricing. At the same time it provides simplicity in wiring.