FORBIX SEMICON long range distributed alarm system

2 – 3 Kms range of communication in open air

1 – to – 1 Configuration

Transmitter





3 Wires

Max 25 Meters possible

Security room



Alarm Switch



Adapter plug (220V-110VAC to 12VDC) converter

1 transmitter

1 Alarm button

1 Receiver siren

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FORBIX SEMICON

FORBIX SEMICON long range distributed alarm system

2 – 3 Kms range of communication in open air

1 – to – Many Configuration

Transmitter





1 – to – Many



3 Wires

Max 25 Meters possible

Security room



Alarm Switch



Adapter plug (220V-110VAC to 12VDC) converter

1 transmitter

1 Alarm button

Many receiver siren

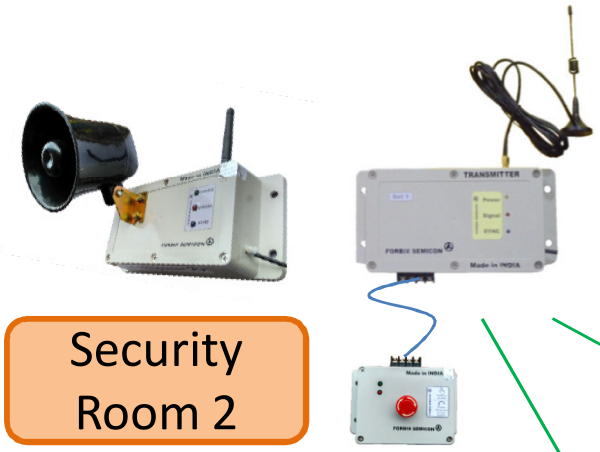
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2 – 3 Kms range of communication in open air

Distributed Configuration



Security Room 2



Security Room 3



Security Room 1

Many transmitters to 1 receiver configuration



Central Control Room

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FORBIX SEMICON long range distributed alarm system

2 – 3 Kms range of communication in open air

1 – to – Many Configuration

Transmitter



Wire connection
Between transmitter
and button box





Adapter





Receivers
[Maximum 12 nos.]

1 – to – Many



One transmitter to multiple receiver configuration

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2 – 3 Kms range of communication in open air

Many – to – 1 Configuration

Potential free contact point
Relay output for each channel





[0]

Transmitters
[Maximum 10 nos.]



[1]

Many – to – 1



[11]

Adapter plug
(220V-110VAC to
12VDC) converter

11 relay output
Each relay capacity 5Amps
COMMON and NO ports per relay

Many transmitters to 1 receiver configuration

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FORBIX SEMICON long range distributed alarm system

2 – 3 Kms range of communication in open air

Many – to – 1 Configuration

Alarm siren output



118db siren output
High volume



Adapter plug
(220V-110VAC to
12VDC) converter



[0]

Transmitters
[Maximum 10 nos.]



[1]

Many – to – 1



[11]

Many transmitters to 1 receiver configuration

http://www.forbixindia.com/electronics/long-range-alarm-systems/

FORBIX SEMICON

FORBIX SEMICON long range distributed alarm system

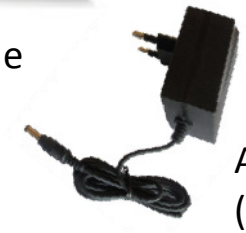
2 – 3 Kms range of communication in open air

Many – to – 1 Configuration

Display output for each transmitter



Display to indicate the calling transmitter numbers



Adapter plug (220V-110VAC to 12VDC) converter



[0]



[1]



[12]

Transmitters [Maximum 10 nos.]

Many – to – 1

Many transmitters to 1 receiver configuration

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FORBIX SEMICON

FORBIX SEMICON long range distributed alarm system

2 – 3 Kms range of communication in open air

Many – to – 1 Configuration

Display output for each transmitter





[0]

Transmitters
[Maximum 10 nos.]



[1]

Display to indicate the calling transmitter numbers

Many – to – 1

Computer data logger with USB connection





[12]

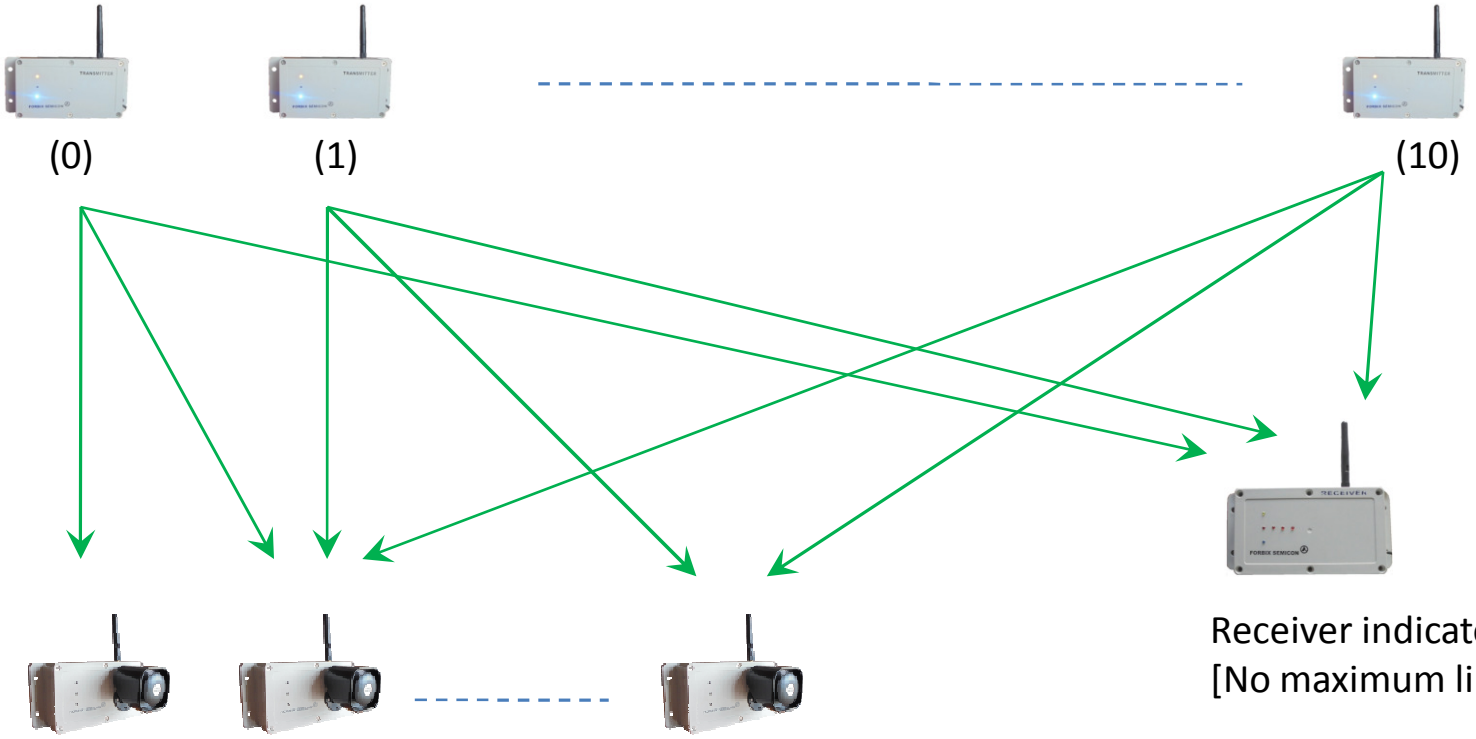
Many transmitters to 1 receiver configuration

http://www.forbixindia.com/electronics/long-range-alarm-systems/

FORBIX SEMICON long range distributed alarm system

2 – 3 Kms range of communication in open air

Many – to – Many Configuration



Many to many configuration

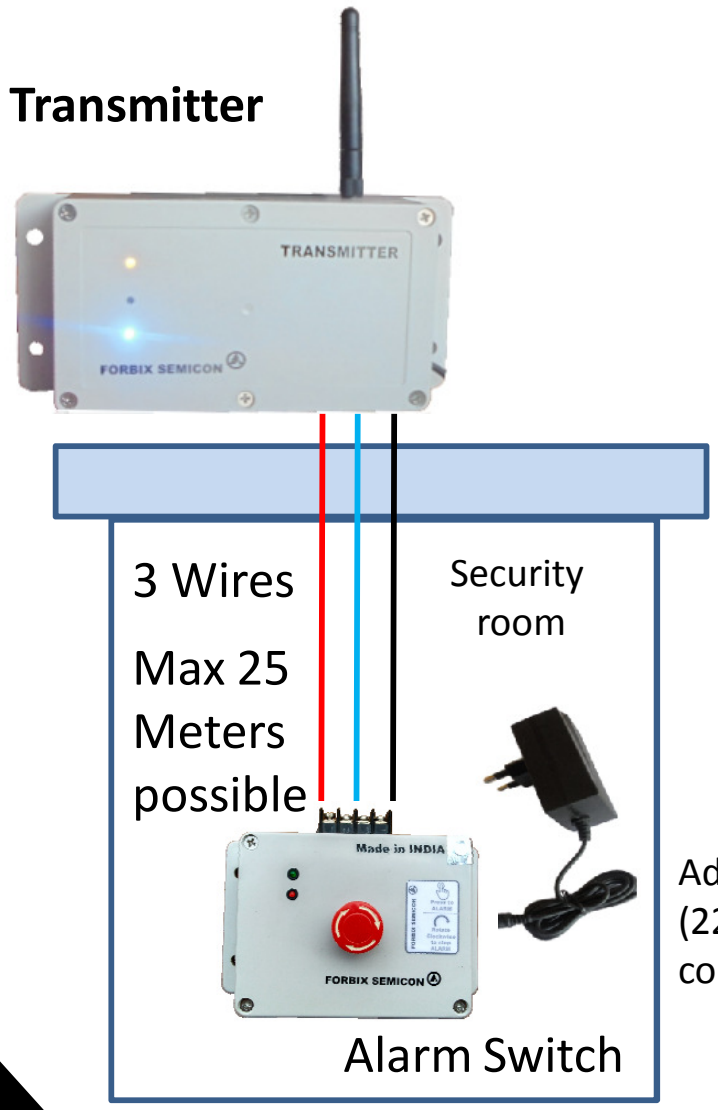
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FORBIX SEMICON long range distributed alarm system

2 – 3 Kms range of communication in open air

Transmitter with alarm button



Adapter plug (220V-110VAC to 12VDC) converter

Proposed wiring and location diagram for alarm switch in the Security Room

Transmitter unit:

1no. Grey box (on top) IP65 enclosure
1no. Alarm switch box (in bottom) – hard plastic

Wire connection between alarm switch and transmitter is to be done by the user at site. 4 wires connection between transmitter and 1 button alarm switch

Range of communication:
If transmitter is indoors, then range of communication would be 500-800 m
Whereas if transmitter is mounted outdoors the range increases many folds to 2.5-3.5 Km
Range of communication is a factor of many environmental conditions

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FORBIX SEMICON long range distributed alarm system

2 – 3 Kms range of communication in open air

Receiver with inbuilt siren

Receiver





Adapter plug (220V-110VAC to 12VDC) converter

Receiver unit with inbuilt siren

1no. IP65 enclosure receiver unit
Inbuilt siren with ~108db sound alarm (loud enough for a periphery of 100 meters, used in apartments, hotels, hospitals etc.)

When signal activated (from transmitter) the siren blows, when transmitter deactivated, the siren stops blowing

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FORBIX SEMICON long range distributed alarm system

2 – 3 Kms range of communication in open air

Receiver with inbuilt siren

Receiver





Adapter plug (220V-110VAC to 12VDC) converter

Receiver unit with inbuilt siren

1no. IP65 enclosure receiver unit
Inbuilt siren with ~118db sound alarm (loud enough to be audible from a distance of 800-1000meters, used in apartments, hotels, hospitals, factories, oil fields, army etc.)

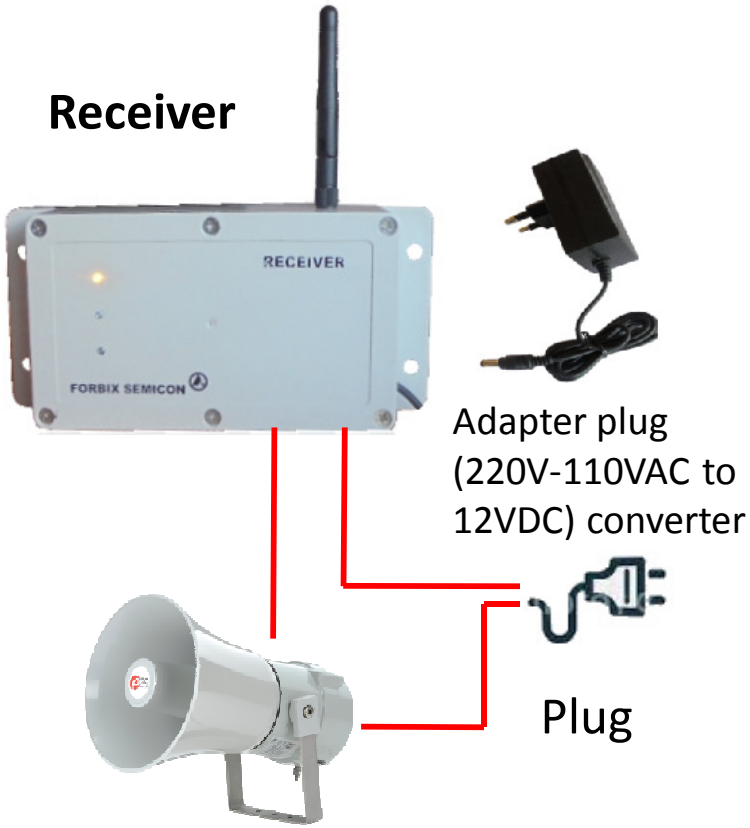
When signal activated (from transmitter) the siren blows, when transmitter deactivated, the siren stops blowing

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FORBIX SEMICON long range distributed alarm system

2 – 3 Kms range of communication in open air

Receiver with external siren



Receiver unit with external siren

1no. IP65 enclosure receiver unit
Potential free relay contactor point with max capacity of 5Amps @ 220VAC

When signal activated (from transmitter) the relay contactor points gets connected to each other, closing the electrical loop circuit and siren blows.

Any external siren / alarm / hooter can be connected to the contactor nodes (red wires) of max capacity as mentioned by the relay control current and voltage (appliances with same or lower rating can be directly connected)

Make sure the load peak current should not be more than 3-4 Amps

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FORBIX SEMICON long range distributed alarm system

2 – 3 Kms range of communication in open air

Receiver with indicators

Receiver





Adapter plug (220V-110VAC to 12VDC) converter

Receiver indicator unit

1no. IP65 enclosure receiver unit
Custom made indicator units. Each indictor glows for the respective transmitter activation signal. This receiver unit if kept in a centralized / maintenance room, can indicate which of the specific transmitter(s) are activated at a given time.

Maximum indication possible is 10

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FORBIX SEMICON long range distributed alarm system

2 – 3 Kms range of communication in open air

Receiver with display

Receiver



Adapter plug (220V-110VAC to 12VDC) converter

Receiver display unit

1no. ABS plastic enclosure
Custom made receiver with 2-digit display. Each number shows for the respective transmitter activation signal. This receiver unit if kept in a centralized / maintenance room, can indicate which of the specific transmitter(s) are activated at a given time.

Maximum display values possible is 200
00 – 99, alphanumerical numbers viz. A1, b2, c3, d4, E5, F6, G7, h8, H9, J5, P2, Y7 etc. is also possible

Display receiver is possible with 2 / 3 / 4 digits

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FORBIX SEMICON long range distributed alarm system

2 – 3 Kms range of communication in open air

Antenna types

1



Rubber duck antenna

2



Extended wire antenna

Performance of antenna 2 (extended wire antenna) is much better compared to 1 (rubber duck antenna)

Extended wire antenna length = 1meter
Magnetic mounting at base
Metallic antenna structure

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Revision History

Date	Version	Description	Reviewed
05/Jan/2010	v1.0	Initial draft	Yes (Pratik)
09/Sep/2016	v1.1	Added display systems and antenna	Yes (J Biswas)