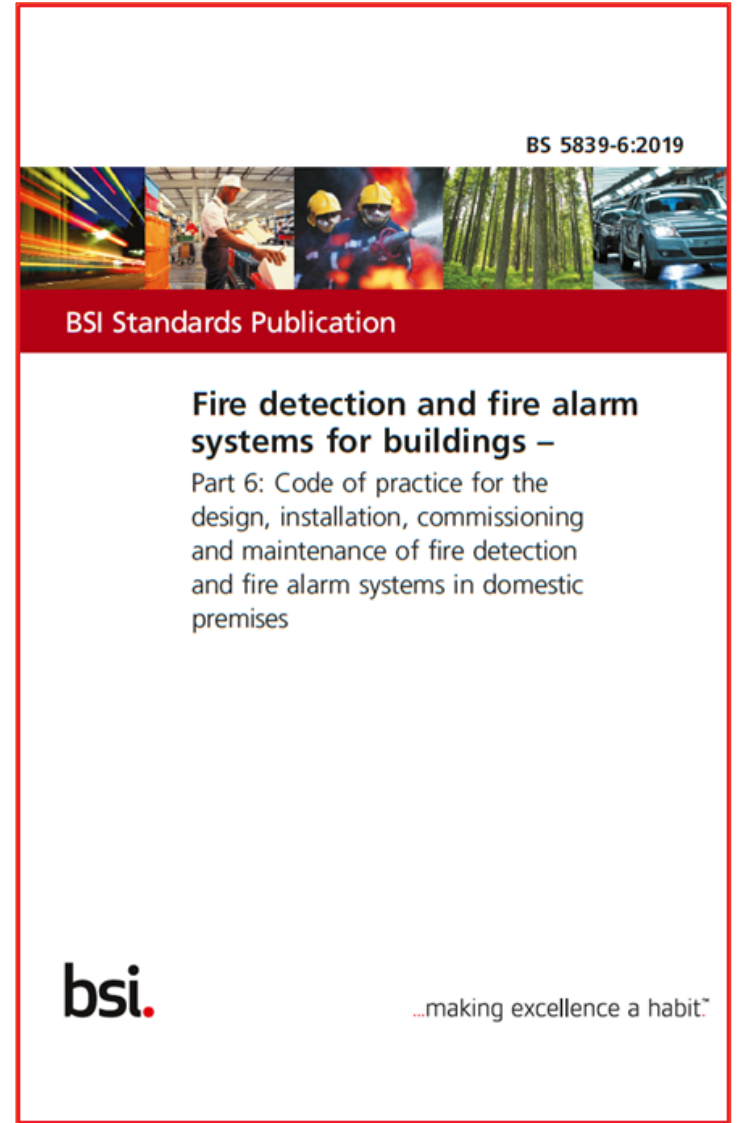
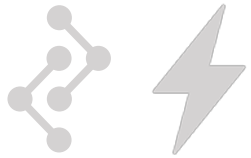




Upgrading your Smoke & Heat Alarms





Interconnection
and Power
Supply



Alarm
Requirements



How can this be
Achieved



Accessories

Power Supply Hard-wired Interconnection



Interconnection and Power Supply

BS 5839-6:2019



BSI Standards Publication

Fire detection and fire alarm systems for buildings –

Part 6: Code of practice for the
design, installation, commissioning
and maintenance of fire detection
and fire alarm systems in domestic
premises

bsi.

...making excellence a habit™

BS 5839-6:2019

BRITISH STANDARD

15.4 Recommendations for power supplies for Grade D systems

The following recommendations should be met.

- a) The normal supply for smoke alarms and any heat alarms in a Grade D system should be derived from the public electricity supply to the premises. The mains supply to the smoke alarms and heat alarms should take the form of either:

- 1) an independent circuit at the dwelling's consumer unit, in which case no other electrical equipment should be connected to this circuit (other than the supply to a dedicated social alarm control unit); or

NOTE 1 Mains powered CO alarms conforming to BS EN 50291 and installed in accordance with BS EN 50292 may also be interlinked with the fire detection and alarm system if the manufacturer of all the components makes such a recommendation.

- 2) a separately electrically protected, regularly used local lighting circuit, in which case there should be a means for isolation of the smoke alarm(s) from the lighting circuit (e.g. for maintenance).

NOTE 2 This does not imply that there need be separate electrical protection of the smoke alarm circuit; a single means of protection against overload or short circuit (e.g. a fuse or circuit-breaker) serving the entire circuit is acceptable.

NOTE 3 A number of manufacturers use a fixed base for the electrical connections, and the smoke or heat alarm can be readily removed by use of a tool-operated release tab, etc.

NOTE 4 The mains supply to the alarm system may be transformed to extra low voltage before being distributed at that voltage to the alarms.

- b) Any device that isolates the power supply to the smoke alarm(s) should be labelled "SMOKE ALARMS: DO NOT SWITCH OFF". Where smoke alarms are connected to a lighting circuit, the label should, instead, read "CAUTION. SMOKE ALARMS CONNECTED TO THIS CIRCUIT. DO NOT SWITCH OFF".

- c) If smoke alarms and any heat alarms are of a type that can be interconnected by wiring, all smoke alarms and heat alarms should be connected on a single final circuit.

NOTE 5 This recommendation is intended to ensure electrical safety by avoidance of a situation in which one device, isolated for maintenance, remains connected to a live device via the interconnect wiring. Accordingly, the recommendation does not apply if the form of interconnection is not capable of conducting current, e.g. if the means of interconnection comprises radio communication rather than wiring.

- d) The standby supply for smoke alarms and heat alarms should take the form of a primary battery or a secondary battery.

- e) The capacity of the standby supply should be sufficient to power the smoke alarm(s) and any heat alarms in the quiescent mode for at least 72 h whilst giving an audible or visual warning of power supply failure, after which there should remain sufficient capacity to provide a fire warning for a further 4 min. In the absence of a fire, a fault warning light should be active for at least 24 h.

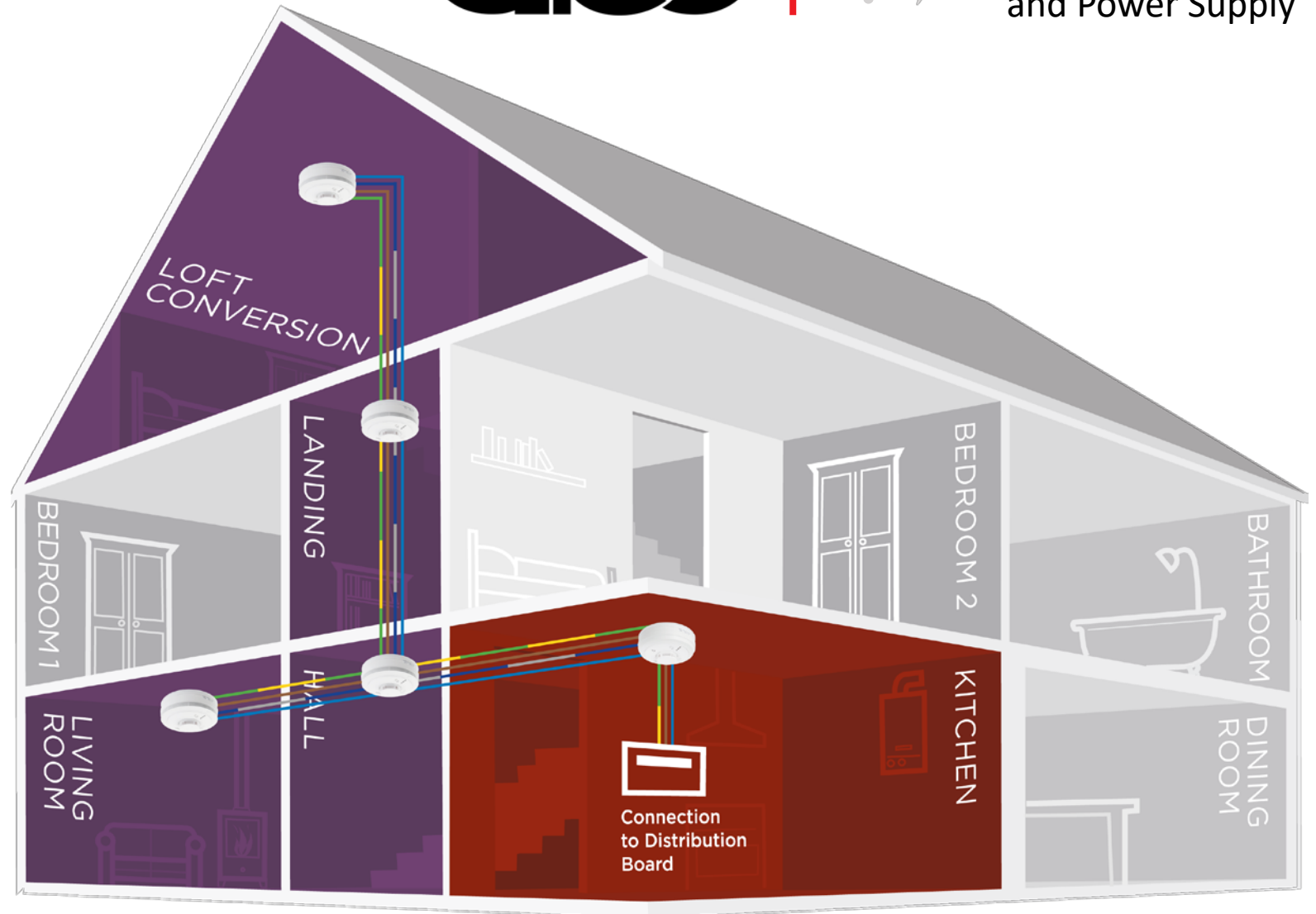
- f) In an HMO with a single key or card-operated meter, the mains power supply for all smoke and heat alarms may be served by the meter. However, where, in an HMO, the accommodation of each resident is served by a separate key or card-operated meter, Grade D smoke and heat alarms in common parts should not be supplied via the meter of any resident.



Interconnection
and Power Supply

Power Supply Hard-wired Interconnection

Supply taken
from dedicated circuit



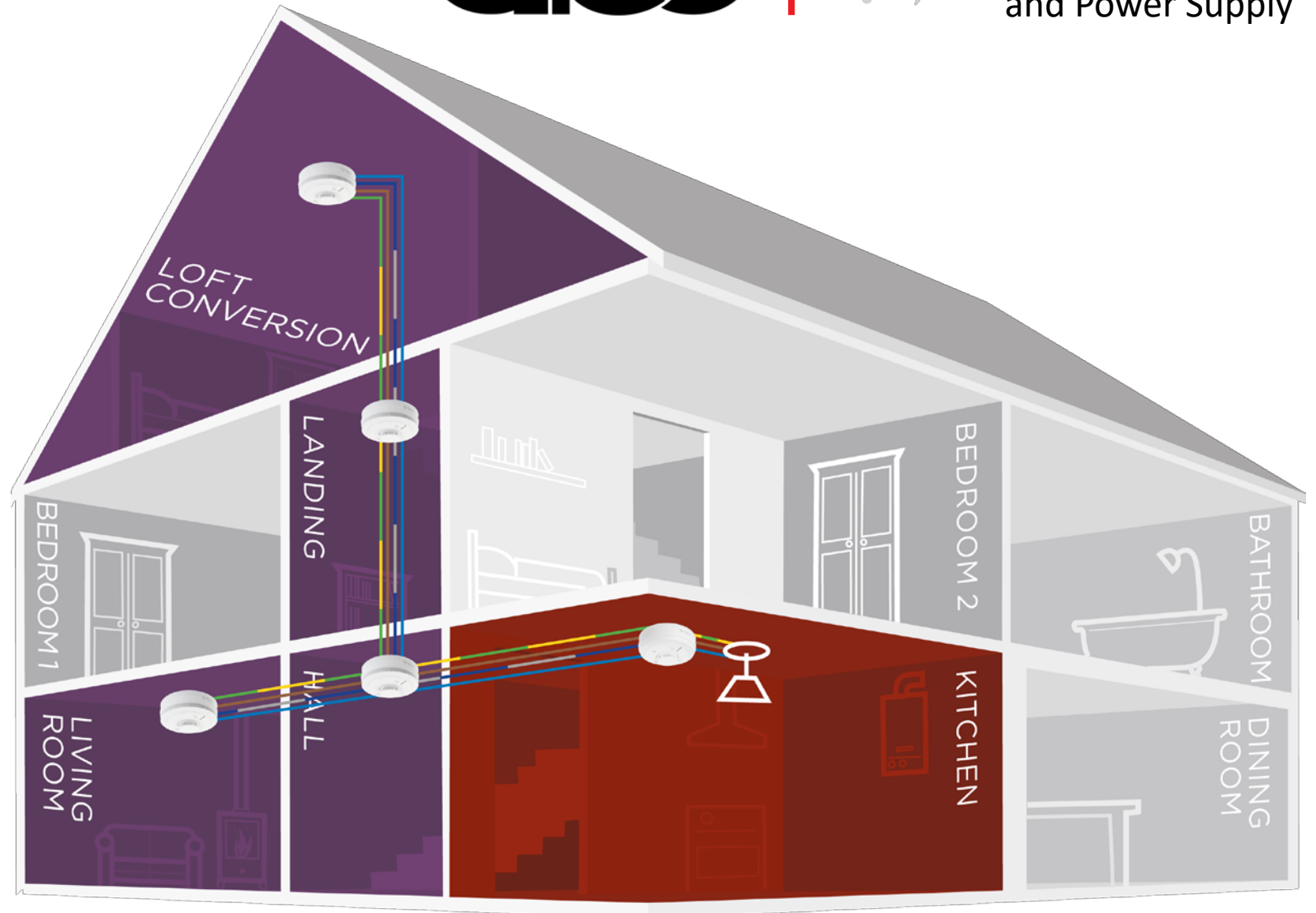


Interconnection
and Power Supply

Power Supply

Hard-wired Interconnection

Supply taken from lighting
circuit





Interconnection
and Power Supply

Power Supply RF Interconnection

15.4 Recommendations for power supplies for Grade D systems

The following recommendations should be met.

- a) The normal supply for smoke alarms and any heat alarms in a Grade D system should be derived from the public electricity supply to the premises. The mains supply to the smoke alarms and heat alarms should take the form of either:

- 1) an independent circuit at the dwelling's consumer unit, in which case no other electrical equipment should be connected to this circuit (other than the supply to a dedicated social alarm control unit); or

NOTE 1 Mains powered CO alarms conforming to BS EN 50291 and installed in accordance with BS EN 50292 may also be interlinked with the fire detection and alarm system if the manufacturer of all the components makes such a recommendation.

- 2) a separately electrically protected, regularly used local lighting circuit, in which case there should be a means for isolation of the smoke alarm(s) from the lighting circuit (e.g. for maintenance).

NOTE 2 This does not imply that there need be separate electrical protection of the smoke alarm circuit; a single means of protection against overload or short circuit (e.g. a fuse or circuit-breaker) serving the entire circuit is acceptable.

NOTE 3 A number of manufacturers use a fixed base for the electrical connections, and the smoke or heat alarm can be readily removed by use of a tool-operated release tab, etc.

NOTE 4 The mains supply to the alarm system may be transformed to extra low voltage before being distributed at that voltage to the alarms.

- b) Any device that isolates the power supply to the smoke alarm(s) should be labelled "SMOKE ALARMS: DO NOT SWITCH OFF". Where smoke alarms are connected to a lighting circuit, the label should, instead, read "CAUTION. SMOKE ALARMS CONNECTED TO THIS CIRCUIT. DO NOT SWITCH OFF".

- c) If smoke alarms and any heat alarms are of a type that can be interconnected by wiring, all smoke alarms and heat alarms should be connected on a single final circuit.

NOTE 5 This recommendation is intended to ensure electrical safety by avoidance of a situation in which one device, isolated for maintenance, remains connected to a live device via the interconnect wiring. Accordingly, the recommendation does not apply if the form of interconnection is not capable of conducting current, e.g. if the means of interconnection comprises radio communication rather than wiring.

- d) The standby supply for smoke alarms and heat alarms should take the form of a primary battery or a secondary battery.

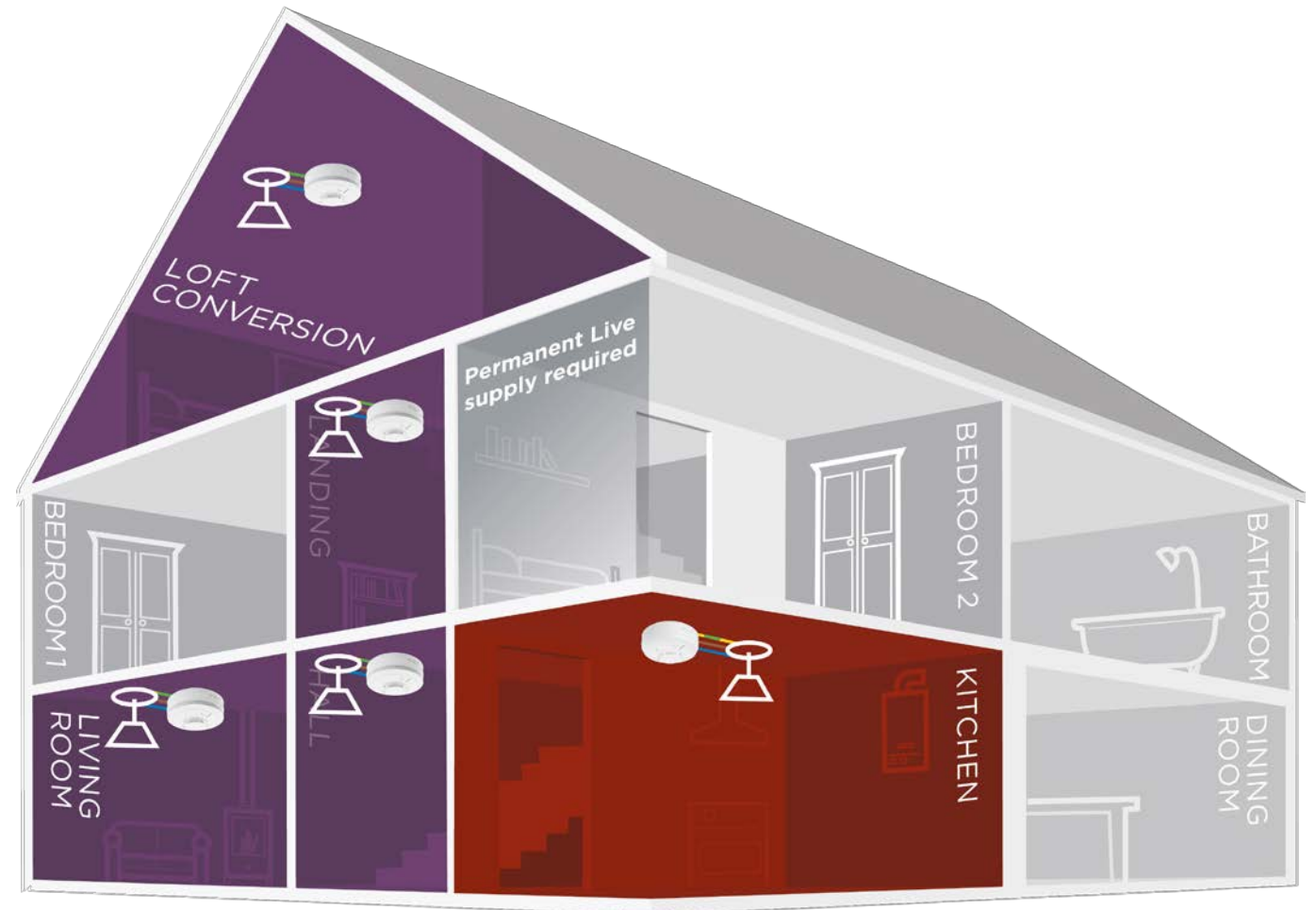
- e) The capacity of the standby supply should be sufficient to power the smoke alarm(s) and any heat alarms in the quiescent mode for at least 72 h whilst giving an audible or visual warning of power supply failure, after which there should remain sufficient capacity to provide a fire warning for a further 4 min. In the absence of a fire, a fault warning light should be active for at least 24 h.

- f) In an HMO with a single key or card-operated meter, the mains power supply for all smoke and heat alarms may be served by the meter. However, where, in an HMO, the accommodation of each resident is served by a separate key or card-operated meter, Grade D smoke and heat alarms in common parts should not be supplied via the meter of any resident.



Power Supply RF Interconnection

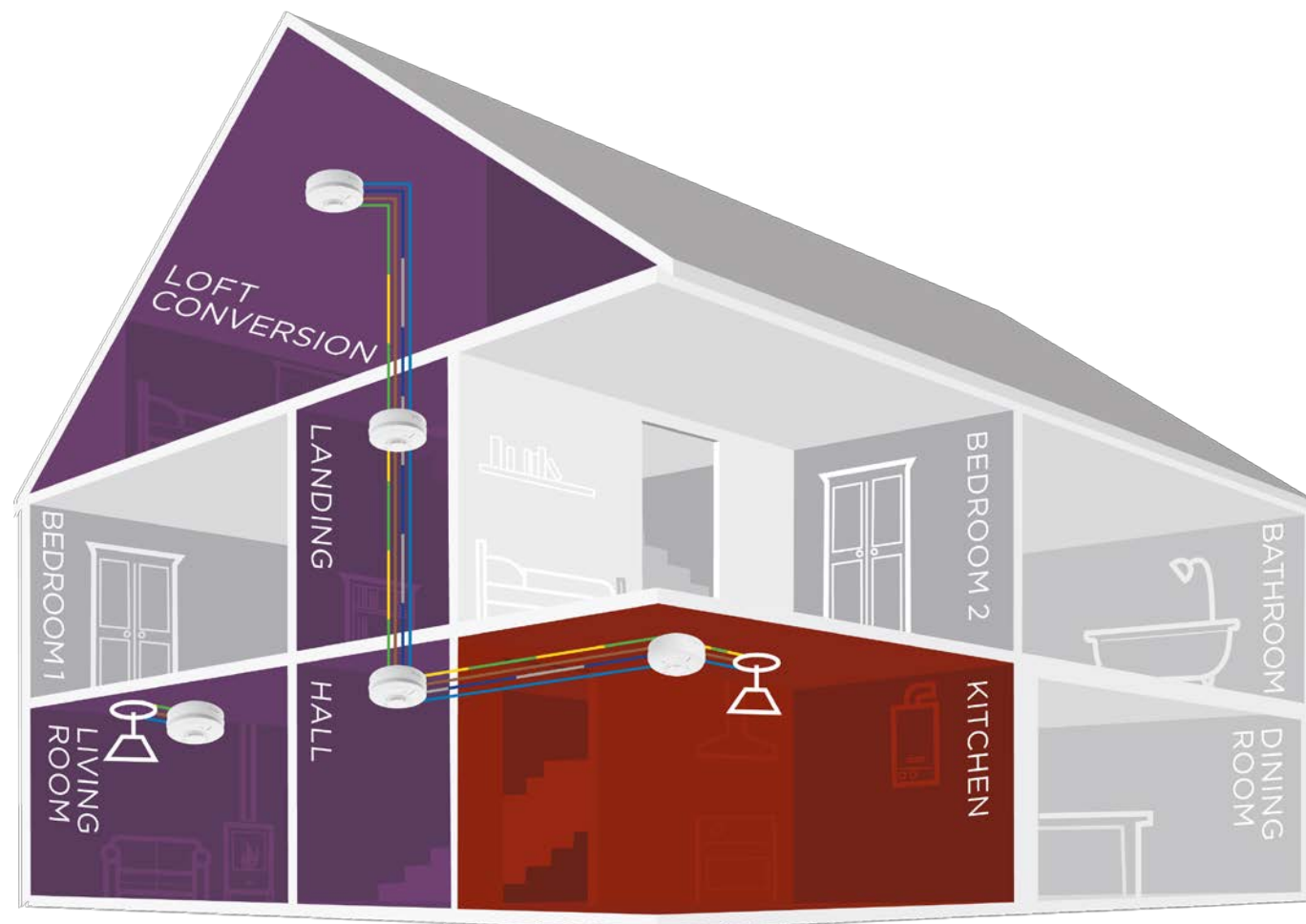
Supply taken from lighting
circuit





Power Supply Hybrid Interconnection (RF & Hard-wired mixed)

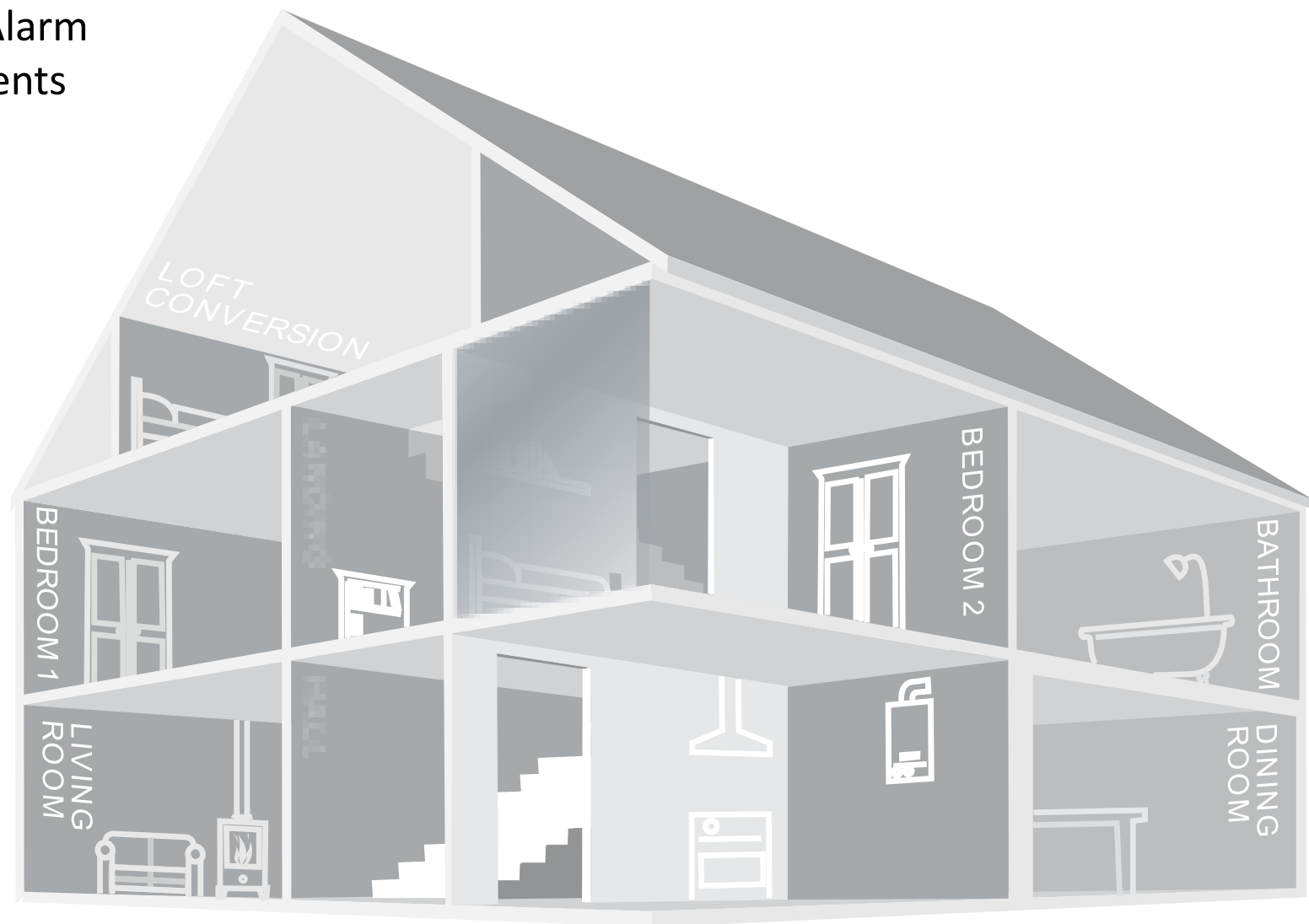
Supply taken from lighting
circuit





Scotland Alarm Requirements

All homes should have:



All alarms should be ceiling mounted



Scotland Alarm Requirements

All homes should have:

- One smoke alarm in every circulation space on each storey, such as hallways and landings



All alarms should be ceiling mounted



Scotland Alarm Requirements

All homes should have:

- Smoke alarms in every circulation space on each storey, such as hallways and landings
- Smoke alarms installed in the room most frequently used for general daytime living purposes



All alarms should be ceiling mounted



Scotland Alarm Requirements

All homes should have:

- Smoke alarms in every circulation space on each storey, such as hallways and landings
- Smoke alarms installed in the room most frequently used for general daytime living purposes
- Heat alarms installed in every kitchen



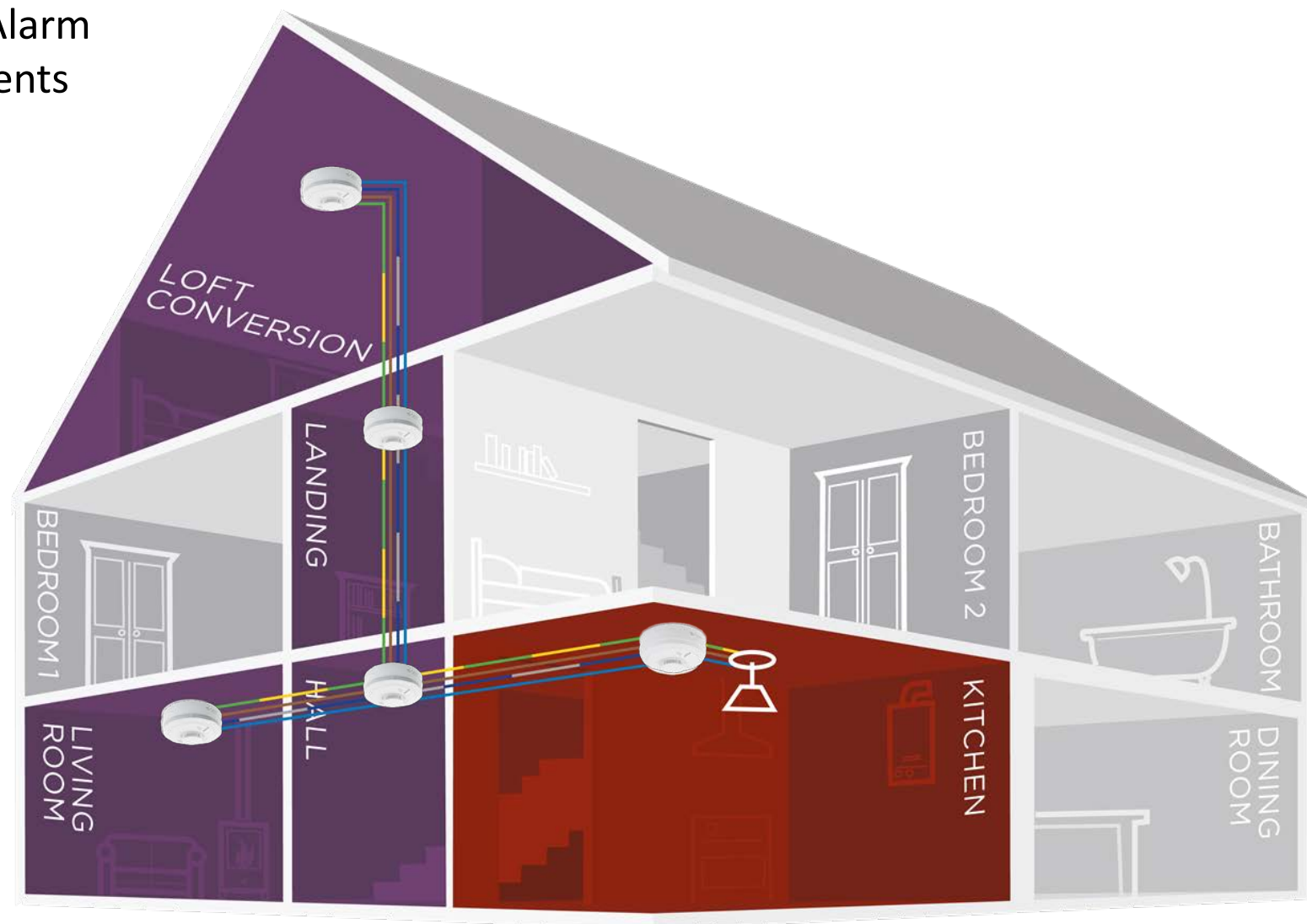
All alarms should be ceiling mounted



Scotland Alarm Requirements

All homes should have:

- Smoke alarms in every circulation space on each storey, such as hallways and landings
- Smoke alarms installed in the room most frequently used for general daytime living purposes
- Heat alarms installed in every kitchen
- All alarms should be interlinked



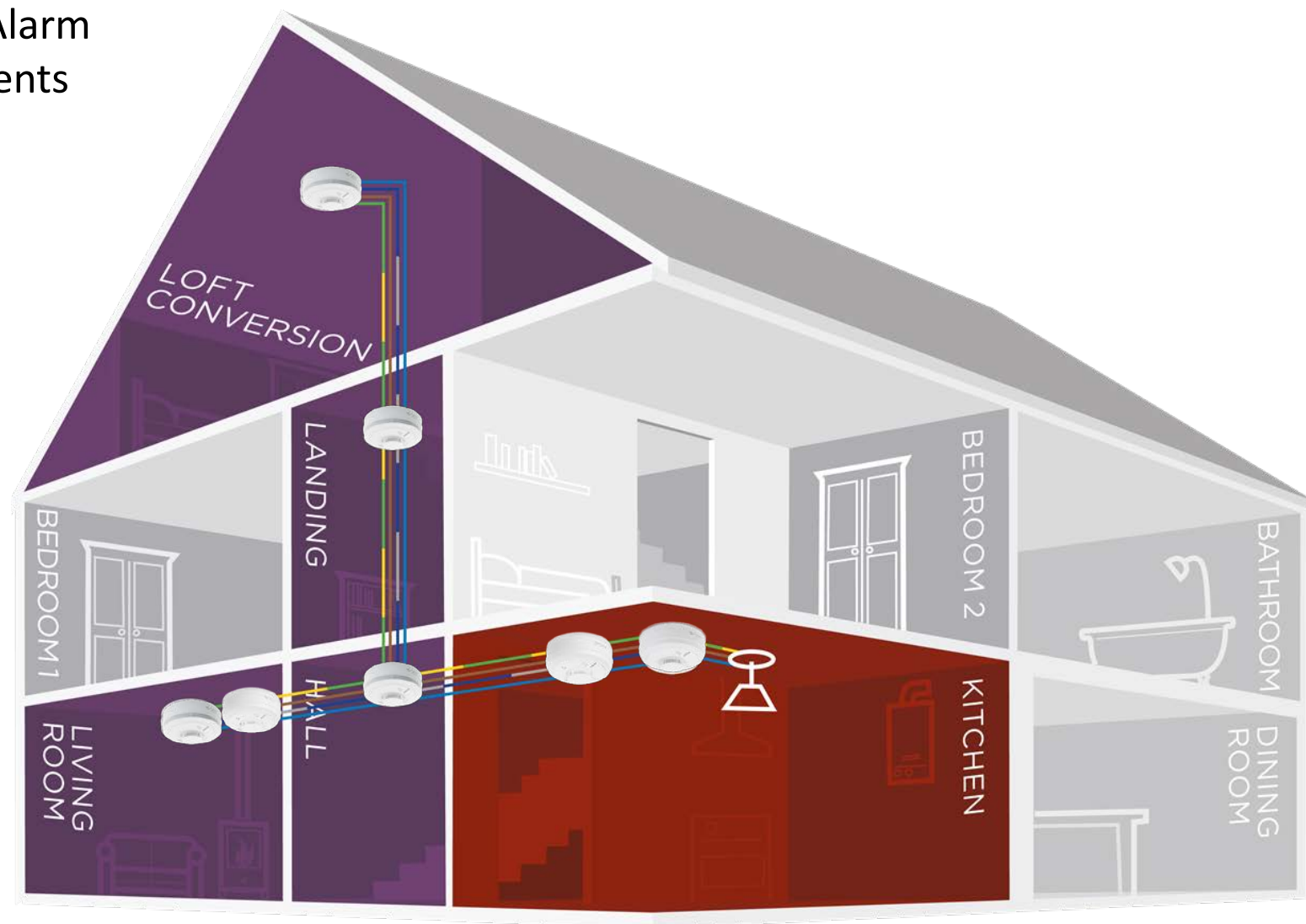
All alarms should be ceiling mounted



Scotland Alarm Requirements

All homes should have:

- Smoke alarms in every circulation space on each storey, such as hallways and landings
- Smoke alarms installed in the room most frequently used for general daytime living purposes
- Heat alarms installed in every kitchen
- All alarms should be interlinked
- Carbon monoxide detectors to be fitted where there is a fuel burning appliance or a flue



All alarms should be ceiling mounted



How can this
be achieved?

Option 1:

Grade D (Mains powered with sealed, tamper-proof battery backup)

Category LD2 (Escape routes and principle habitable rooms)

Hard-wire Interconnection



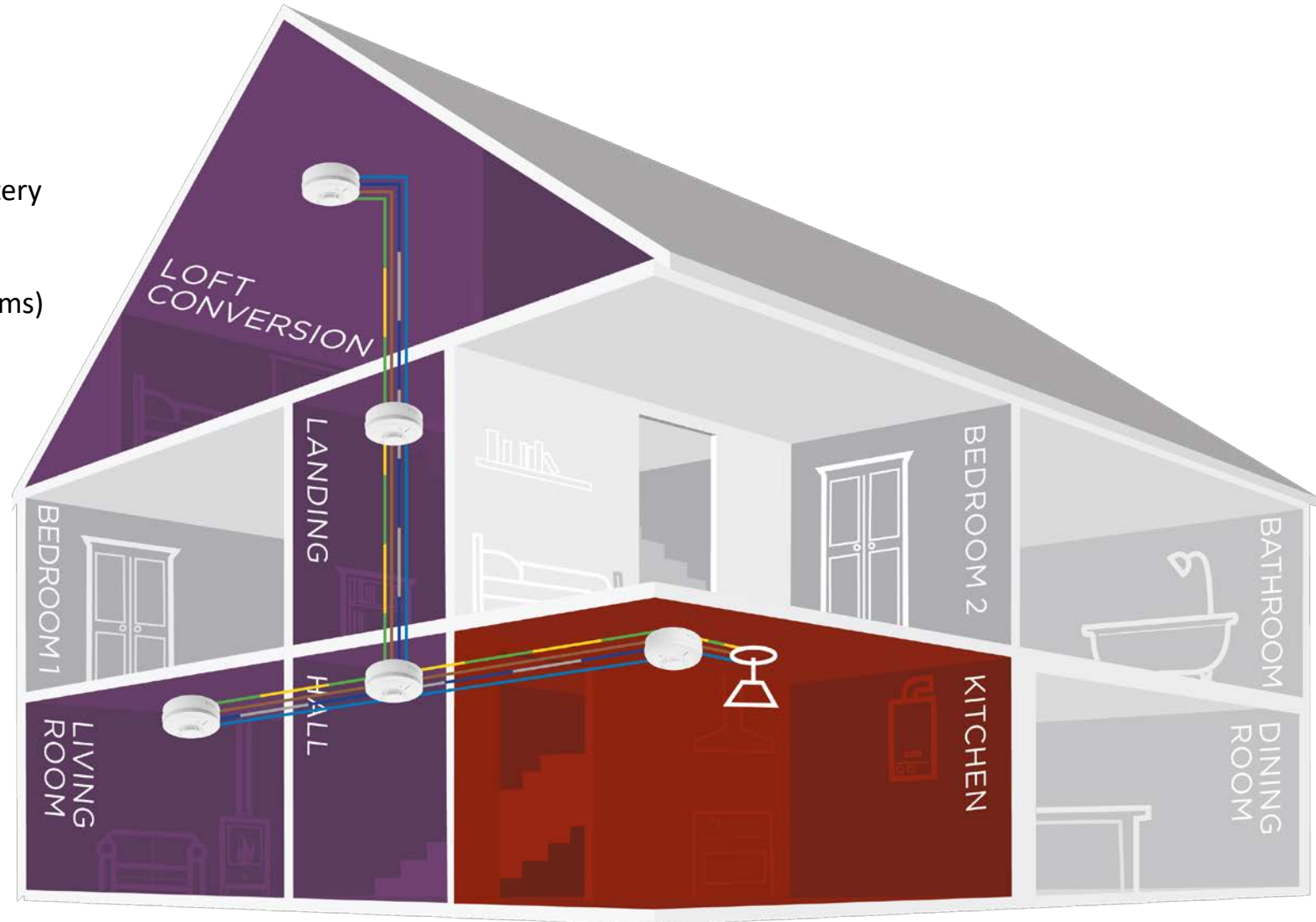
Ei3024
All rooms
except kitchen



Ei3014
Kitchen



Ei3028
Kitchen with
CO
appliance





How can this
be achieved?

Option 2:

Grade D (Mains powered with sealed, tamper-proof battery backup)

Category LD2 (Escape routes and principle habitable rooms)

RF Interconnection



Ei3024
All rooms
except kitchen



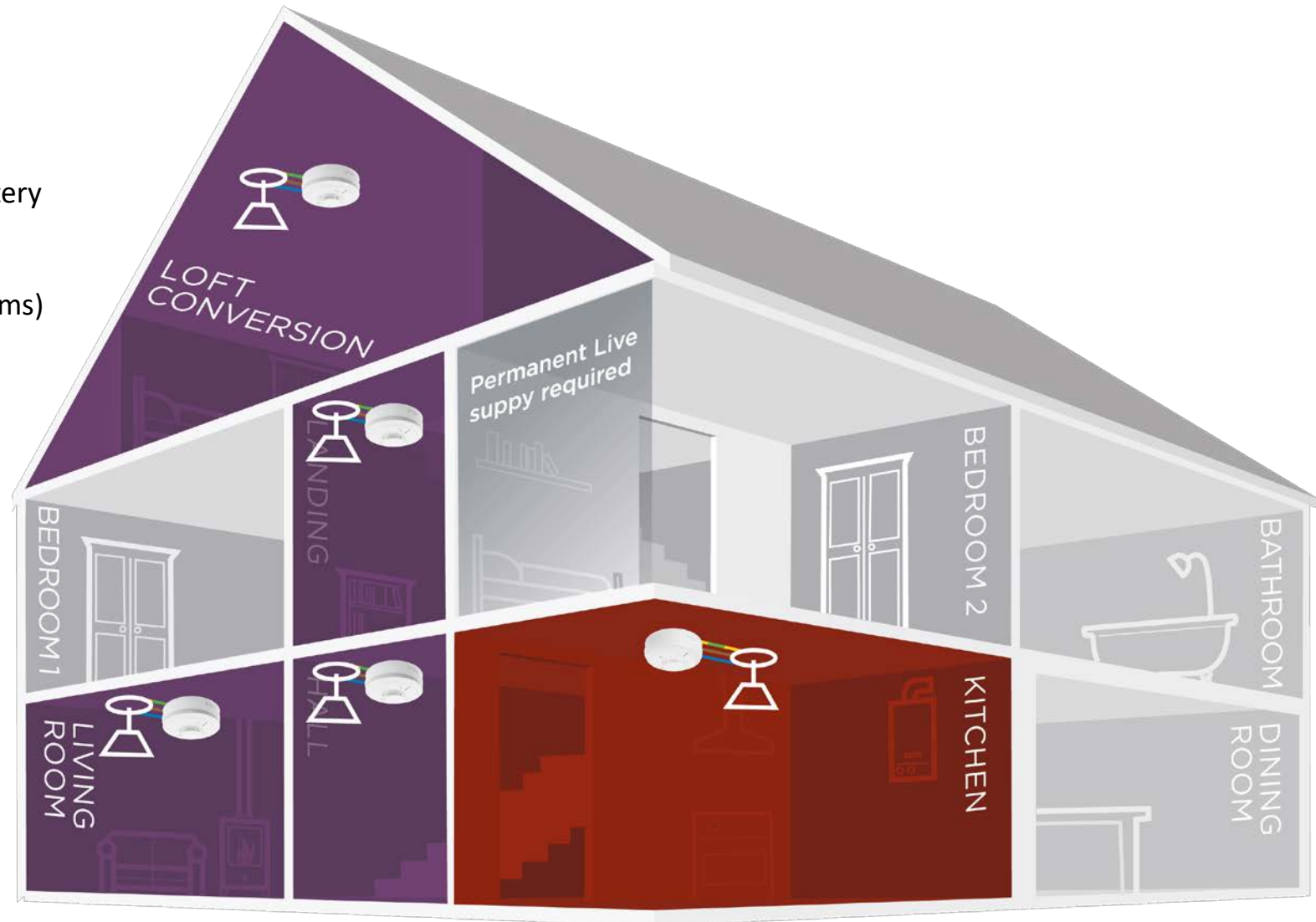
Ei3014
Kitchen



Ei3028
Kitchen with
CO
appliance



Ei3000MRF
All alarms





How can this
be achieved?

Option 3:

Grade D (Mains powered with sealed, tamper-proof battery backup)

Grade F (Battery powered)

Category LD2 (Escape routes and principle habitable rooms)

RF Interconnection



Ei3024

All rooms
except kitchen



Ei603RF

Kitchen



Ei650RF

Living Room



Ei3000MRF

Fitted to all
3000 series
alarms





How can this
be achieved?

Option 4:

Grade D (Mains powered with sealed, tamper-proof battery backup)

Grade F (Battery powered)

Category LD2 (Escape routes and principle habitable rooms)

Hybrid Interconnection



Ei3024

All rooms
except kitchen



Ei603RF

Kitchen



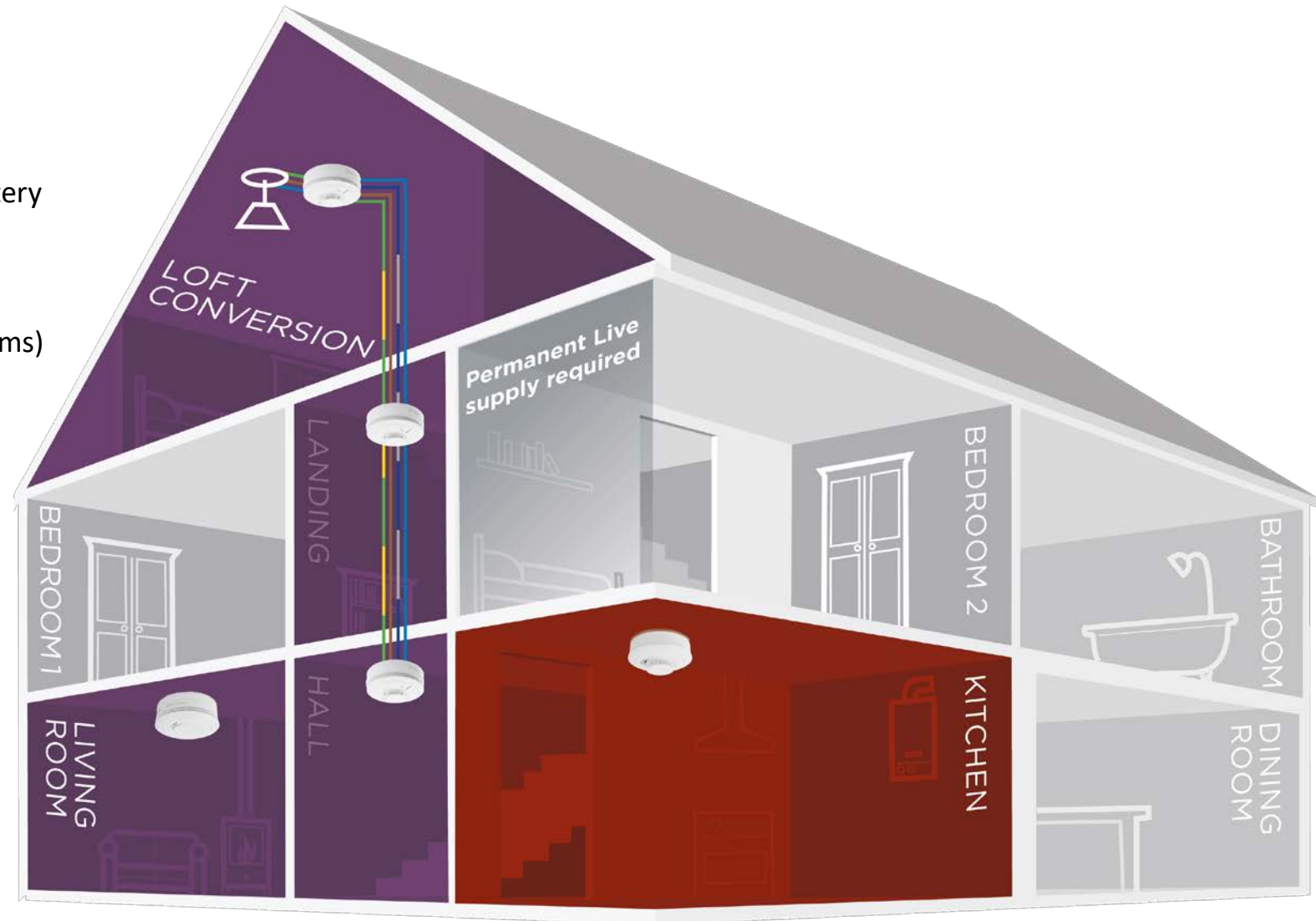
Ei650RF

Living Room



Ei3000MRF

Fitted in one
3000 series
alarm





Accessories



Alarm Controller

- No wiring – 10 year lithium battery
- One button – three functions
- RF Interconnection
- Alarm indicator lights

Product shown: Ei450 RadiolINK Alarm Controller



Product shown: Ei450 Radiolink Alarm Controller



Accessories

Test

all the alarms



Alarm Controller

- No wiring – 10 year lithium battery
- One button – three functions
- RF Interconnection
- Alarm indicator lights



Product shown: Ei450 Radiolink Alarm Controller



Accessories

Locate

the triggered alarms



Alarm Controller

- No wiring – 10 year lithium battery
- One button – three functions
- RF Interconnection
- Alarm indicator lights



Product shown: Ei450 RadioLINK Alarm Controller

aico[®]



Accessories

Silence

If no fire is present



Alarm Controller

- No wiring – 10 year lithium battery
- One button – three functions
- RF Interconnection
- Alarm indicator lights



Accessories

These lights flash when the alarms sound

Product shown: Ei450 Radiolink Alarm Controller



Accessories



Alarm Kit for the Deaf

- Mains powered with rechargeable back-up
- Flashing strobe light
- Vibrating pad for placing under pillows
- Strobe only version also available

Product shown: Ei170RF RadioLINK Alarm Kit for Deaf



Accessories

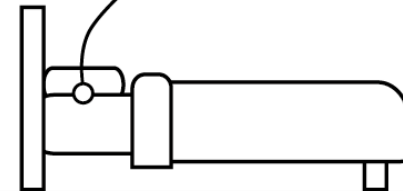


①



Daytime Rooms
Strobe only

②



Bedrooms
Strobe and pad

Product shown: Ei170RF RadioLINK Alarm Kit for Deaf

Thank you

