

# HOYLES ELECTRONIC DEVELOPMENTS Ltd

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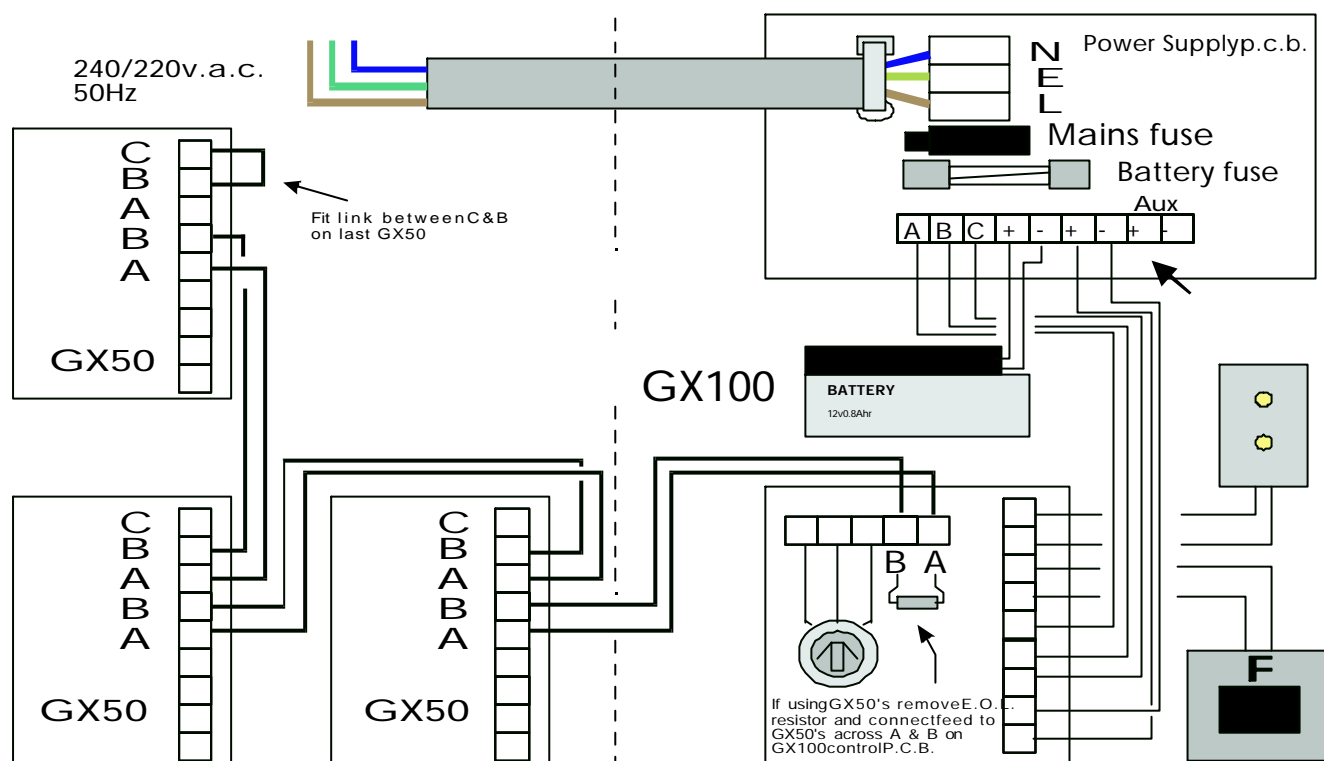
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## GEMINII GX100 & GX50 FIRE ALARM

The Gemini GX100 fire alarm is designed to fully meet the requirements of BS5839 Part 1 Appendix G. It is intended for use as a mains powered single point manual fire alarm. Up to five GX50 slave units can be connected to a GX100 master and still maintain full sounder output in excess of 30 minutes in the event of a mains failure. The control circuitry of the GX100 will power up to ten GX50 slaves but the period of operation of the sounders will be reduced. The GEMINI satisfies the fire alarm requirements for most buildings up to 2000 sq metres where there is no call for zoning or automatic detection to awaken sleeping persons. Each GX100 is supplied with a 12 volt 0.8Ahr sealed lead acid stand-by battery.

Very comprehensive monitoring of the mains supply, battery, sounder and interconnection wiring to the GX50 slave units is employed. The GEMINI uses a simple two wire connection between GX100 and GX50 slave units to reduce installation time. Installation time is further reduced by employing a combined sounder and call point.



## INSTALLATION.

Consideration should be given to the type of cable to be used. See BS5839 Part 1: 1988 Section 17 for recommendations. Whilst the cables connected to a GX100 are fully monitored this is not to be regarded as a substitute for adequate protection against damage. If a cable is cut or short circuited then warning will be given on the GX100. However, if the cable damage is such as to effectively disconnect a GX50 slave unit then it and any subsequent units cannot function. If you are in any doubt contact your local Fire Prevention Officer.

### GX100

Open the GX100. Disconnect and remove the battery. Do not remove the insulation from the battery lead or allow the bare ends of the leads to touch each other, or other components. Site the GX100 on the wall at a suitable height (BS5839 recommends 1.4m). Take a suitable three core mains cable from the GX100 to a permanent supply of mains electricity. IMPORTANT: Connect the GX100 end of the cable first. The terminals are marked LEN (Live, Earth, Neutral). Use the ty-wrap on the p.c.b. to mechanically secure the cable. If sheathed cable such as MICC is used then it is important to ensure that earth continuity is made to the earth connection on the power supply p.c.b. Connect the mains cable to a fused spur in readiness for switching on.

Insert the key and turn to the SILENCE position. Refit the battery and connect the leads to the power supply p.c.b. as shown above (red to +ve, black to -ve). The sounder may sound, turn the keyswitch to the RESTART ALARM position. The sounder will continue to beep every 5 - 10 seconds, this indicates that the mains supply is still disconnected. The Amber fault LED will be illuminated. Switch on the mains supply, the sounder should now silence and only the Green POWER ON LED should be illuminated.

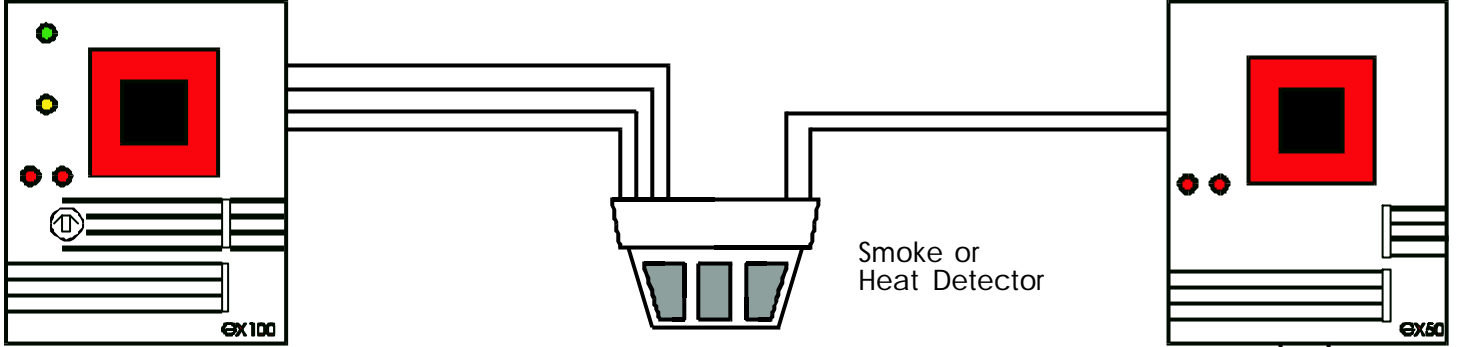
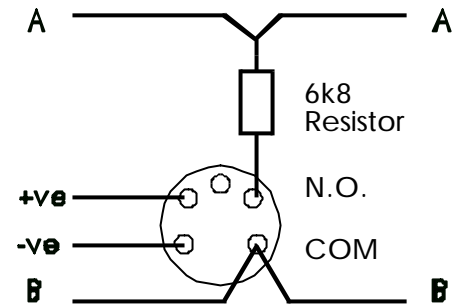
To test the call point operation insert the black plastic test key in the side of the call point. As it operates the sounder will sound. Turn the keyswitch to SILENCE, remove the plastic test key and return the keyswitch to RESTART ALARM.

### GX50

These should be sited throughout the building so that no occupant needs to travel more than 30 metres to raise the alarm. They are usually sited on exit routes, landings and stairwells. The sound level of a fire alarm should be sufficient to be heard by all occupants within the building. The GX50 is a combined unit therefore both criteria need to be met simultaneously. The GX50 fixes to the wall in a similar manner to the GX100 master. A two core connection is required between the GX100 and GX50 as shown above. The 12K E.O.L. resistor should be removed from the GX100 and the two wire connection made to terminals A & B. GX50's can only be wired in tandem as shown. The last unit must be fitted with a link between C & B, this establishes the end of line monitoring resistor. Test each unit by inserting the plastic test key as for the GX100.

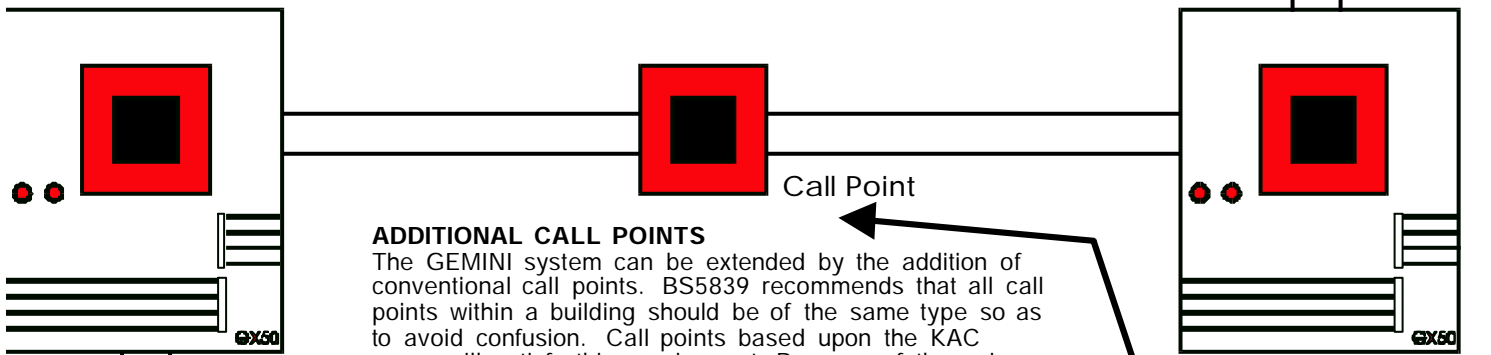
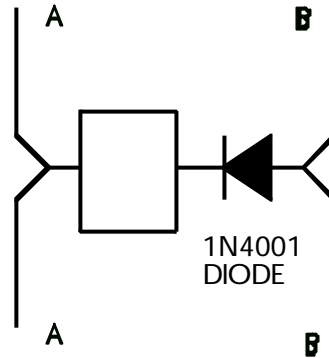
## SMOKE & HEAT DETECTORS

The GEMINI is intended to meet the requirements of BS5839 Part 1 Appendix G. This specification covers simple manual only systems. However automatic smoke or heat detectors are available for the GEMINI and these may be connected as shown. The S12VS-2 is an optical smoke detector and the S12VH-1 is a rate of rise heat detector. Both units require a supply of 12 volts d.c. and this can be taken from the auxilliary 12 volts supply of the GX100, a four wire connection is therefore required to detectors. In general the detectors should be configured for auto-reset, to do this remove the push on link underneath the detector. Detailed information is supplied with each detector.



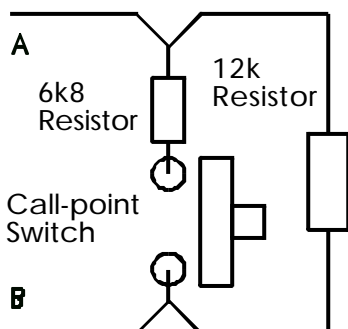
## ADDITIONAL SOUNDERS.

Additional sounders may be added to a GEMINI system. BS5839 recommends that all sounders should be similar in tone and type of sound. The GX100 and GX50 both utilize the popular Soundbomb II. The maximum sounder load should not exceed 750ma. Each GEMINI sounder requires 65ma. Thus if an installation has one GX100 and five GX50's there will be approximately 350ma for additional sounders. Each additional sounder should have a 1N4001 reverse protection diode as shown to ensure correct operation.



## ADDITIONAL CALL POINTS

The GEMINI system can be extended by the addition of conventional call points. BS5839 recommends that all call points within a building should be of the same type so as to avoid confusion. Call points based upon the KAC range will satisfy this requirement. Because of the unique monitoring arrangements it is necessary to introduce a 6k8 1/4 watt monitoring resistor to ensure correct operation at all times. There is no limit to the number of additional call points which can be added. Call-points are normally, open close on alarm.



## END OF LINE CALL-POINT

If the last item is not a GX50 then the end of line must terminate with a 12k 1/4 watt resistor. The discarded resistor from the GX100 can be used for this purpose.. If the End of Line unit is a sounder, the same 12k resistor would be required.

