

ED320

FIRE ALARM DETECTOR

INSTRUCTION MANUAL

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GENERAL

IMPORTANT: THE EQUIPMENT MUST NOT BE MODIFIED IN ANY WAY AND MUST BE INSTALLED AND SERVICED BY COMPETENT PERSONNEL ONLY.

The ED320 is a fixed installation two zone fire detection system operating from a nominal 12 or 24V DC supply depending upon model. Provision is made for automatic changeover to an emergency DC supply.

Two fuses mounted on the baseboard, provide separate fusing for Main and Emergency supplies, the DC supply to relay contacts and protection for the control unit.

External alarms are connected to relay contacts. See typical connection diagram on page 4. The voltage free changeover contacts on 13, 14, 15 are for immediate fire warning, and for delayed warning terminal 11 becomes +24V (12V for 12V DC model). The maintained fused supply on pins 3 and 6 may be used as necessary.

Note that external fusing must be provided for the voltage free contacts.

The internal circuit fuses are supplied at 2A and must not be increased.

If a single 'maintained' DC supply is available it should be connected to the Emergency terminals since power consumption is then reduced.

SPECIFICATION

Power input 12VDC or 24V DC

Typical current consumption in standby condition = 100mA

Both zones in alarm condition = 170mA

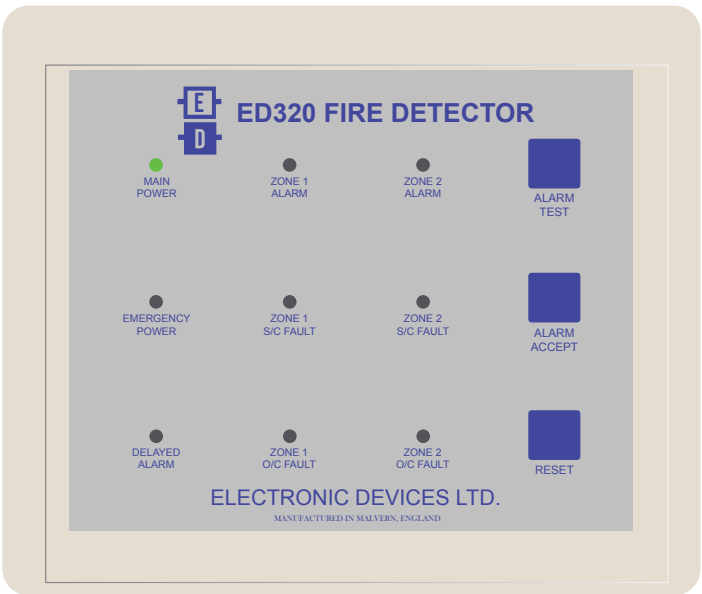
Both zones short circuit = 200mA

Note: Additional sounders draw current when in the alarm condition

ENCLOSURE DIMENSIONS

See diagram on page 5

FUNCTION DIAGRAM



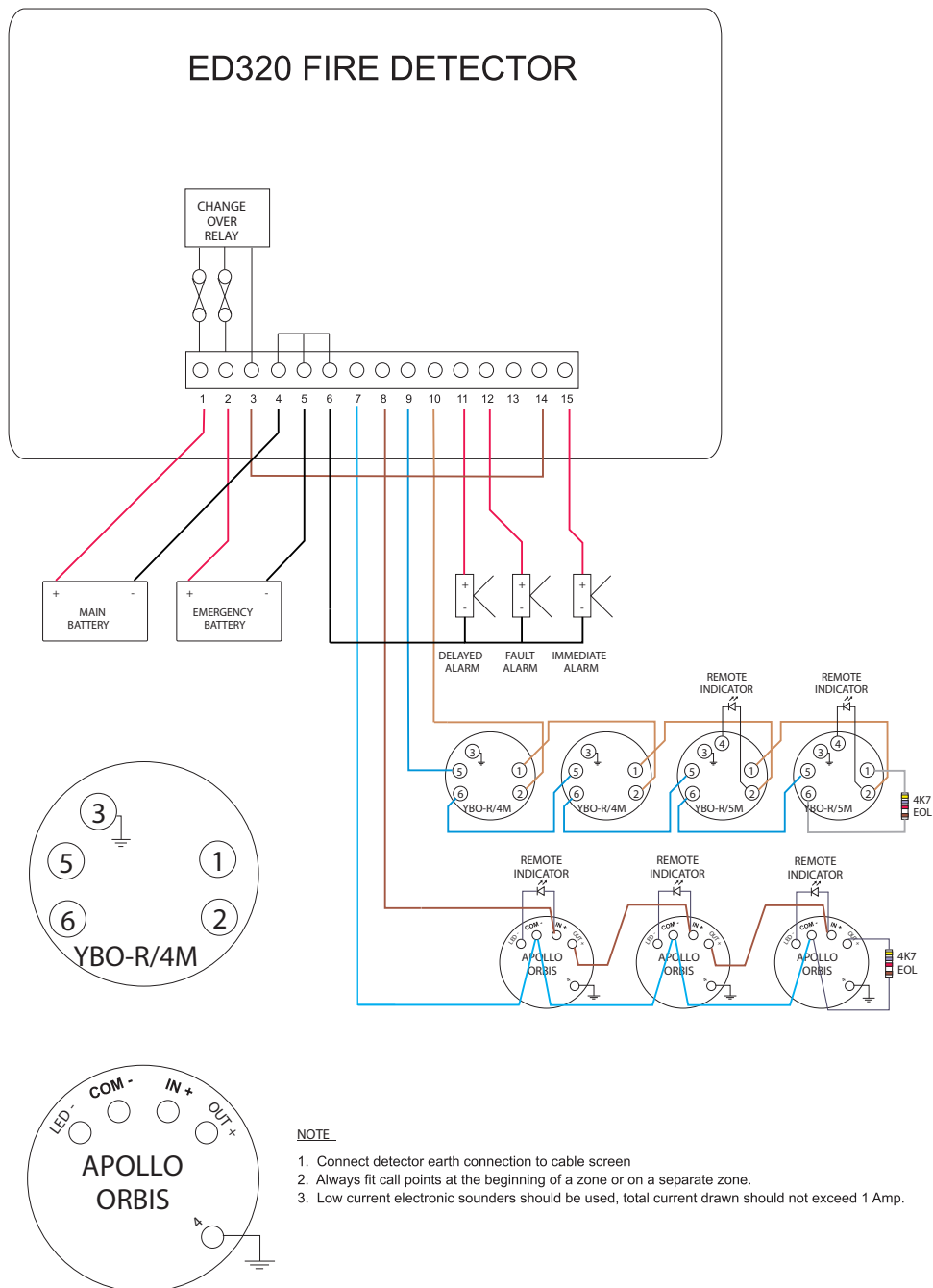
- MAIN POWER** (green dot) Illuminates green when main power input is active.
- EMERGENCY POWER** (green dot) Illuminates green when emergency power input is active.
- ZONE ALARM** (red dot) Illuminates red when zone detector in alarm condition
- ZONE S/C** (amber dot) Illuminates amber when zone circuit in short circuit fault.
- ZONE O/C** (amber dot) Illuminates amber when zone circuit in open circuit fault.
- ALARM TEST** (blue button) Activates alarms and all connected outputs.
- ALARM ACCEPT** (blue button) Accepts alarms and silences sounders.
- RESET** (blue button) Resets control panel and detectors.

CONNECTIONS

CONNECTION LIST

1. Main Supply +VE
2. Emergency supply +VE
3. Maintained +VE output
4. Main Supply 0V
5. Emergency supply 0V
6. Maintained 0V output
7. Zone 1 -VE
8. Zone 1 +VE
9. Zone 2 -VE
10. Zone 2 +VE
11. Delayed alarm +VE output
12. Fault alarm +VE output
13. Immediate VFC normally closed
14. Immediate VFC common
15. Immediate VFC normally open

TYPICAL CONNECTION DIAGRAM

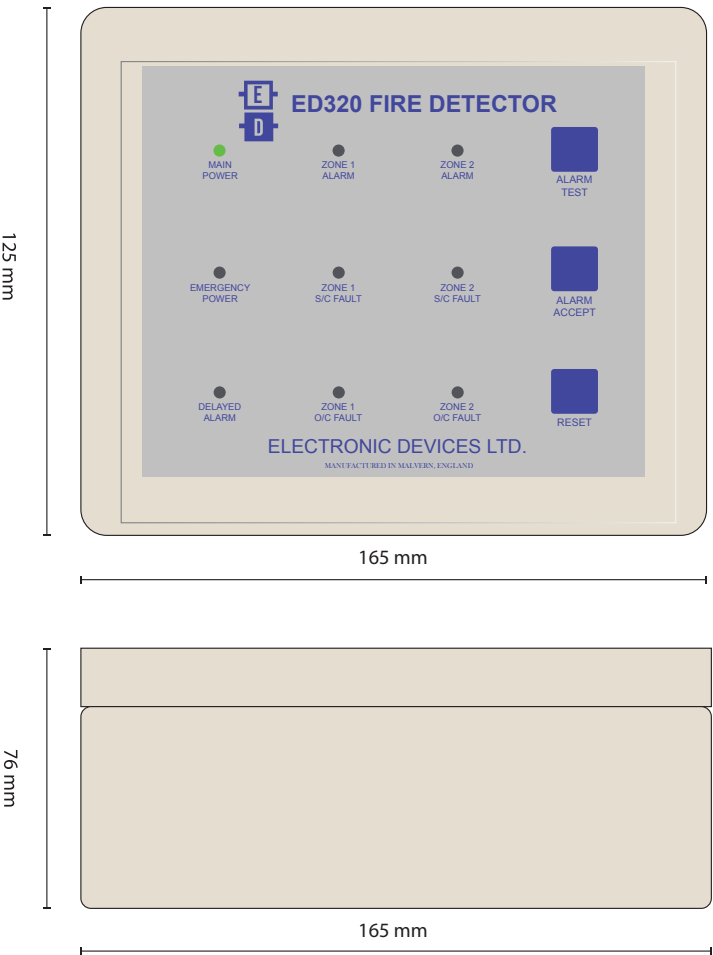


SUITABLE DETECTORS OR ALERTING POINTS

Nominal zone voltage is +20V (for 24V DC model) and +10V (for 12V DC model). Fault monitoring is provided by a 4K7 end of line resistor fitted in the base of the last detector on the zone.

There are a range of conventional Apollo and Hochiki smoke, heat, flame detectors and call points available for use with the ED320. Please contact Electronic Devices for further details.

DIMENSIONS



INSTALLATION

CABLING

Cabling should follow Classification Society Regulations e.g. ABS, D.Tp., I.E.E. Regulations for electronic and electrical equipment in ships.

Connections should be made in accordance with the typical connection diagram on page 4. It is essential that if any zone is unused, a 4K7ohm end of line resistor is connected across the appropriate terminals in the control unit so that all zone lights are extinguished during normal operation.

SMOKE AND HEAT DETECTORS

Avoid siting either type near to ventilation shafts etc, to minimise the possibility of false alarms. They should be mounted high on the deck head and not on the underside of beams etc.

Exact fitting instructions are supplied with each detector.

AUDIABLE AND VISUAL ALARMS

Electronic Devices Ltd recommend that electronic audible alarms, approved by the appropriate classification societies, are fitted. Although historically bells have been fitted for this function, recent tests have shown that they can fail in service and also give false alarms at particular vibration levels. Our ED6 low consumption alarms are fully approved by the Department of Transport and American Bureau of Shipping. Individual fitting instructions are supplied with each alarm. We can also supply low consumption Xenon Beacons where audio alarms are not appropriate, e.g. in engine rooms. These are not approved but are normally accepted by the D.Tp.

It should be emphasized that low current alarms are desirable where emergency battery supplies have limited capacity so that long standby times are achievable.

OPERATION & TESTING

OPERATING INSTRUCTIONS

In general, an audio alarm attracts attention and panel lamps indicate the type of alarm. It is important that personnel recognise the audible alarms so that correct and prompt action can be taken.

In normal operation when using main and emergency supplies, both the 'Mains Power' and the 'Emergency Power' lights should be illuminated. If the Mains power supply fails, the 'Main Power' light extinguishes.

The RED zone indicates a Fire Alarm while YELLOW lamps indicate a zone fault. Simple wiring faults can often be found by visual inspection, but if this method fails, a competent technician should be called. Pressing 'Fault Accept' silences, if fitted, external audible alarms.

Fire alarms should be treated as urgent in the manner laid down in standing instructions. Pressing the appropriate 'Accept' button will silence the main alarm but the internal audio alarm will continue to sound until the Alarm condition is cleared, if it has not been disabled. When the alarm has been cleared it may be necessary, depending on the type of detectors fitted, to press the 'Reset' button to unlatch the detector and hence the alarm.

IN SERVICE TESTING

Tests should be carried out periodically to ensure that both faults and alarm circuits are functioning correctly. Heat and smoke detectors should be operated individually to ensure correct detector and zone operation.

Fault circuits may be tested by open circuiting and short circuiting, in turn, each zone pair at the final detector base. The control unit should be observed during testing to ensure that all panel indicators operate correctly.