

Instruction Manual
ED320
Fire Detector

ED320 FIRE DETECTOR

INSTRUCTION MANUAL

CONTENTS INDEX

Item	Page
General.. .. .	3
Connection List	4
Detection and Alerting Points	5
Installation	6
Enclosure	6
Smoke and Heat Detectors	7
Audible and Visual Alarms	7
Typical connection diagram.. .. .	9
Operating Instructions	9
In Service Testing	9

IMPORTANT

The equipment supplied must not be modified in any way and must be installed and serviced by competent personnel only.

GENERAL

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 Fig. 1. 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 VFC.

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.

Fig. 1

CONNECTION LIST

1. Main Supply +VE
2. Emergency supply +VE
3. Maintained +VE output
4. Main Supply OV
5. Emergency supply OV
6. Maintained OV 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. “ “ common
15. “ “ normally open

DETECTION OR ALERTING POINTS

Nominal zone voltage is 20V (for 24V DC model) and fault monitoring is aided by a 4K7 end of line resistor fitted in the base of the last detector on the zone. The quiescent currents of some devices approved for use with the ED320 are:

Smoke Detectors:

SLR-EM	35uA
SIJ-EM	35uA
S60	55uA

Heat Detectors:

DCD-R1EM	35uA
DCD-1EM	35uA
S60	55uA

Flame Detectors:

601FEX	300uA
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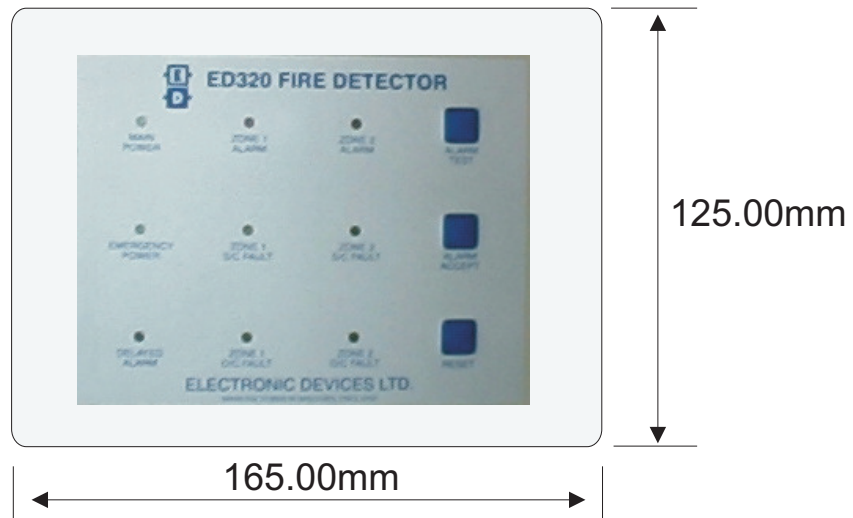
Call points:

EDCP	ZERO
EDCP/W	ZERO

Contact Electronic Devices Limited for suitable 12V DC detectors.

DETECTION OR ALERTING POINTS

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

Connections should be made in accordance with Fig.1 attached.

It is essential that if any zone is unused, a 4.7Kohm 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 & 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 normally supplied with each detector.

AUDIBLE & VISUAL ALARMS

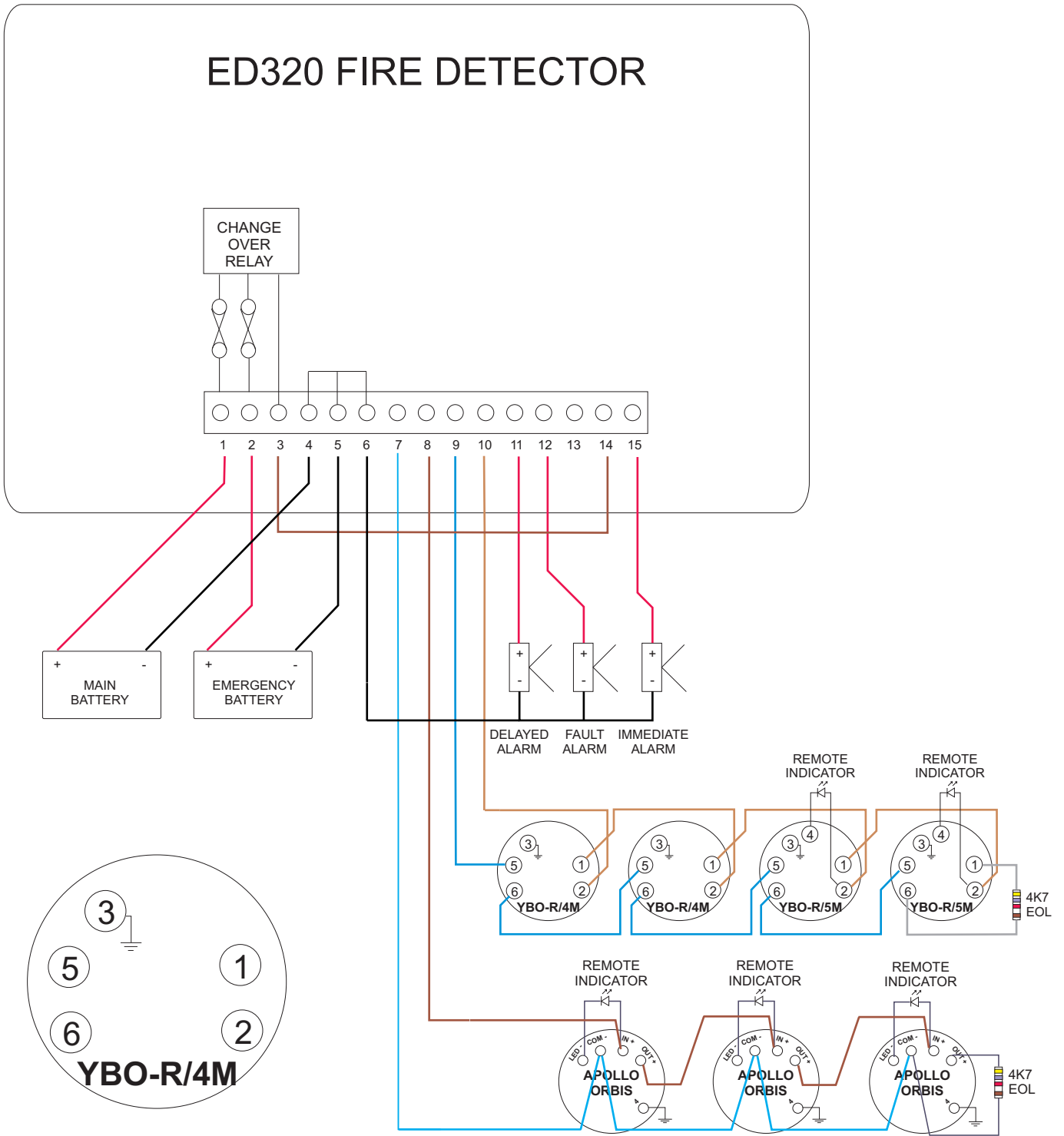
Electronic Devices Ltd recommend that electronic audible alarms, approved by the appropriate classification societies, are fitted. Although historically bells have been fitted for this function, recent tests have shown that they can fail in service and also give false alarms at particular vibration levels. Our ED4 and ED6 low consumption alarms are fully approved by the Department of Transport and Lloyds Register of Shipping. It is normal for fire detection systems to use the ED6 but where low sound levels are desirable, e.g. on the bridge, the ED4 may be more suitable. 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 by the D.Tp. or Lloyds but are normally accepted by them.

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

TYPICAL CONNECTION DIAGRAM

ED320 FIRE DETECTOR



NOTE

1. Connect detector earth connection to cable screen
2. Always fit call points at the beginning of a zone or on a separate zone.
3. Low current electronic sounders should be used, total current drawn should not exceed 1 Amp.

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 wiring 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.