

INSTRUCTION MANUAL

ED820 FIRE DETECTOR

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ED820 FIRE DETECTOR INSTALLATION INSTRUCTIONS

IMPORTANT

- 1) The equipment supplied must not be modified in any way since such modifications will invalidate intrinsic safety certification, Department of Transport and Lloyds approval.
- 2) The equipment must be installed and serviced by competent personnel only.

GENERAL

The ED820 is a fixed installation four zone fire detection system operating from a nominal 24V d.c. supply. Provision is made for automatic changeover to an emergency 24V d.c. supply.

Four fuses mounted on the baseboard, three accessible from the terminal box and one by removing the front panel, provide separate fusing for Main and Emergency supplies, the 24V supply to relay contacts and protection for the control unit.

External alarms are connected to relay contacts. See Fig. 1. The +24V supply available on pins 15 and 20 is via F3. The voltage free changeover contacts on 16, 17, 18 are for immediate fire warning and 22, 23, 24 for delayed warning; the fused supply on pins 15 and 20 may be used and F3 fusing current adjusted as necessary. Note that, to provide continuity of supply if the main power fails, F3 is fed via F1 or F2 as appropriate hence these fuses must be uprated to the correct value for the alarm but must not exceed 3A. 5A current capability is available from terminals 16, 17, 18 and 22 to 24 if a separate supply, with adequate circuit protection is provided externally.

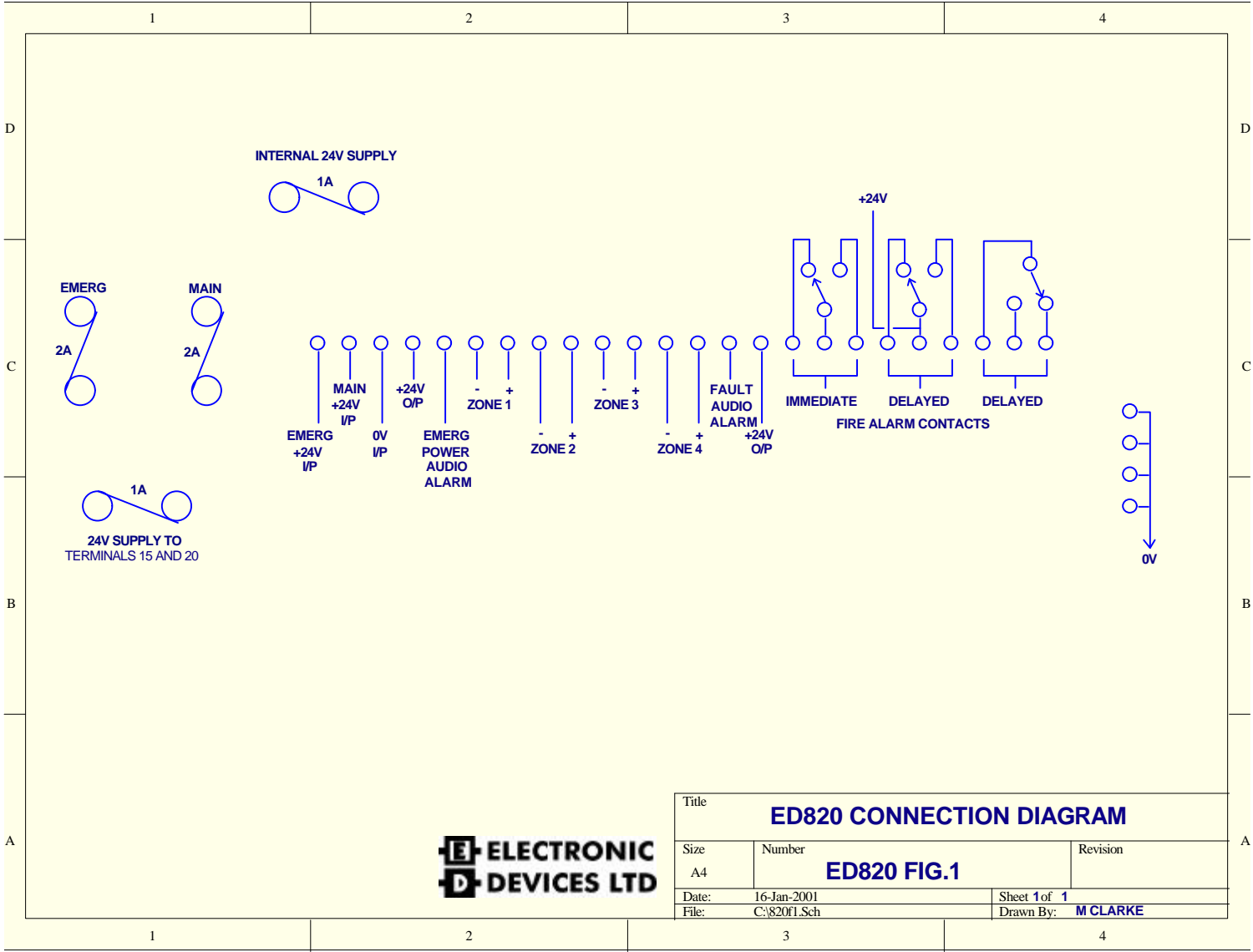
The internal control circuit fuse is supplied at 1A and must not be increased.

If a single maintained 24V supply is available it should be connected to the Emergency terminals since power consumption is then reduced.

DETECTION OR ALERTING POINTS

Nominal zone voltage is 20V 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 devices approved for use with the ED820 are:-

Smoke Detectors	-	F712	100uA
		F906	30uA
		NID 58	30uA
		S60	45uA
Heat Detectors	-	D716	100uA
		H600/900	zero
		S60	45uA



INSTALLATION

CONTROL UNIT

The control unit should be mounted, in a convenient position for the operator, away from possible mechanical damage and allowing sufficient room for the front panel to swing open, calibration to be effected, cables to enter without kinking etc.

The enclosure is fixed to a bulkhead with four screws through holes in the base. See Fig.2.

Remove cover by withdrawing hinge screws. Remove white plastic insert from top hole only. Mounting screw hole in base is then exposed.

Remove two screws holding terminal cover and fit mounting screws through slotted holes in base.

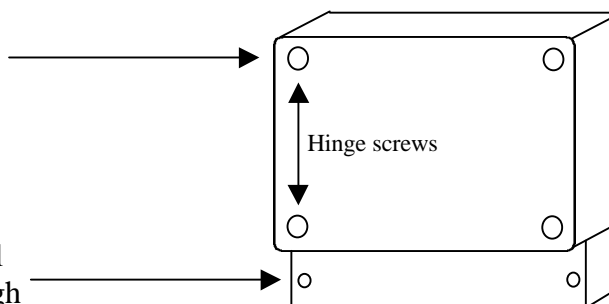


FIG.2

N.B. The four mounting screws are 'outside' the sealing gasket.

To obtain access to the two lower slotted holes, remove the terminal block cover as shown.

Access to the top two holes is obtained by first removing the hinged transparent cover and the hinges. Then remove the top left (only) threaded plastic insert so exposing the hole in the base. The top right hole is exposed when the knurled knob is removed by hand.

Normally it is not necessary to remove the front panel for installation.

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 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 deckhead and not on the underside of beams etc.

Exact fitting instructions are normally supplied with each detector but Figures 3, 4 detail the some of the types approved for use with the ED820.

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 only the 'Mains Power' light should be illuminated. If the Mains power supply fails the 'Main Power' light extinguishes and the 'Emergency Power' light illuminates; if fitted the 'Main Power' failure alarm will sound.

The RED zone lamp 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 internal and, 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.

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 alarm.

IN SERVICE TESTING

Tests should be carried out periodically to ensure that both fault 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.

All ED820 Control Units supplied after 5th October 1993 have an ALARM TEST push button switch mounted on the front panel. This facility operates the immediate and fault alarms instantaneously and, if depressed for longer than 2 minutes (approx.), will also operate the delayed alarm.