Chapter 7

CONTROL UNITS, FIRETEC 2-ZONE

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LEADING PARTICULARS

*Control unit, Type TP*4502	... *Ref. No.* 5CZ/5833
*Control unit, Type TP*5902	... *Ref. No.* 5CZ/6910
Electrical supply—	
Nominal	24*V d.c.*
Minimum	20*V d.c.*
Overall dimensions—	
Length	9·625 *in.*
Width	5·187 *in.*
Height	3·562 *in.*
Weight	4 *lb.* 13 *oz.*

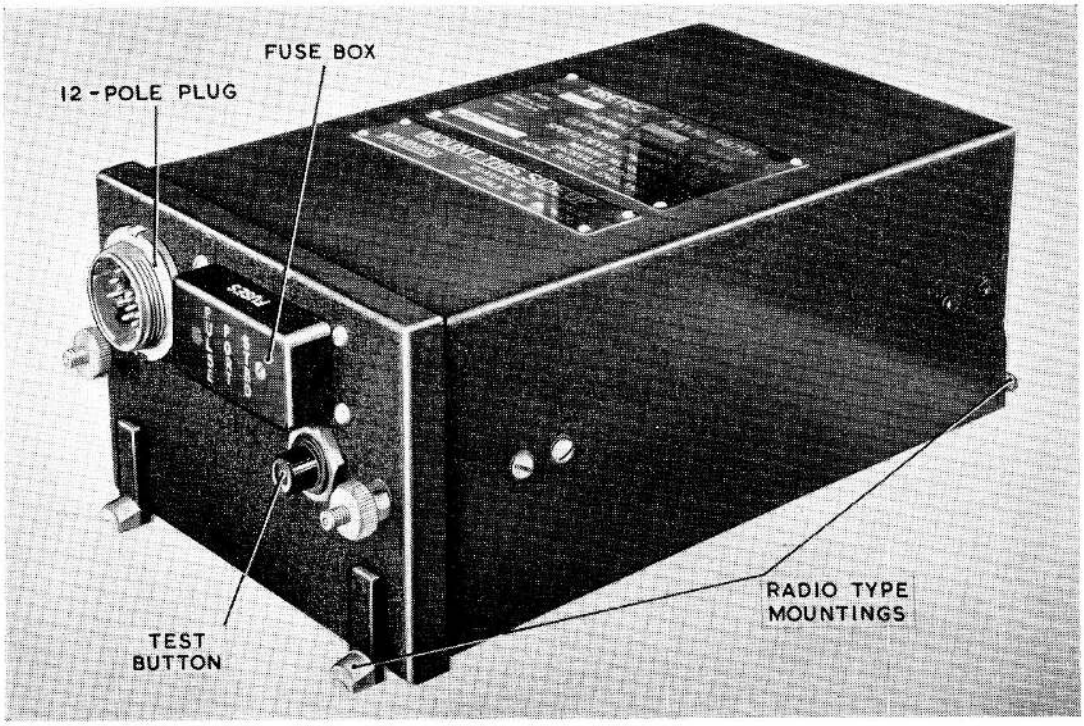

Fig. 1. Control unit, Type TP4502

Introduction

1. The 2-zone control units, Type TP4502 and Type TP5902 which is a modified unit fitted with new type pulsing relays and different value resistors R2 and R9, are used in the Firetec fire detecting system in conjunction with two chains of detector heads. Information on the complete system is given in A.P.4343, Vol. 1, Sect. 22, and on the thermocouple detector heads in Chapter 8 of this Section.

Note . . .

An earlier version of a 2-zone unit is the Type TP4202 (Ref. No. 5CZ/5551). This was superseded by the Type TP4502 and subsequently by the Type TP5902.

DESCRIPTION

2. The control units (*fig.* 1) contain one pulse circuit and two fire warning circuits which are identical in operation to the single zone control unit circuit described in A.P.4343, Vol. 1, Sect. 22. The pulse circuit consists of two Type 600 Post Office relays in the Type TP4502 units and of two Type 2400 Post Office relays in the Type TP5902 units utilising the change-over (Z) contacts of both relays in the 'knock-off' circuit to the millivolt relays of the fire warning circuits. The components of the unit are illustrated in fig. 2 and fig. 4 is a theoretical circuit diagram.

3. Three fuses are included in the circuits, one for protecting the pulse circuit and two for protecting the two warning circuits. They are Belling-Lee, miniature, cartridge type, rated at 2·5A.

4. If the pulse fuse blows, the pulse circuit will not operate. The two fire warning circuits, however, will still operate, but the warning may be slightly delayed owing to the non-operation of the pulse circuit allowing the relay contacts to stick slightly due to the absence of the 'knock-off' voltage.

5. If the fuse of a warning circuit blows, no warning will be given either under fire conditions or when the test button is pressed.

INSTALLATION

6. The installation of the control unit is illustrated in fig. 3 which shows a typical

installation of a unit in a two zone fire warning system. Further information is contained in A.P.4343, Vol. 1, Sect. 22.

SERVICING

7. Servicing instructions are contained in A.P.4343, Vol. 1, Sect. 22. In addition to these, check the pulse and warning circuit fuses for being blown or intact when a fault in the system has occurred. If a fuse has blown fit a new one of the correct type in its place.

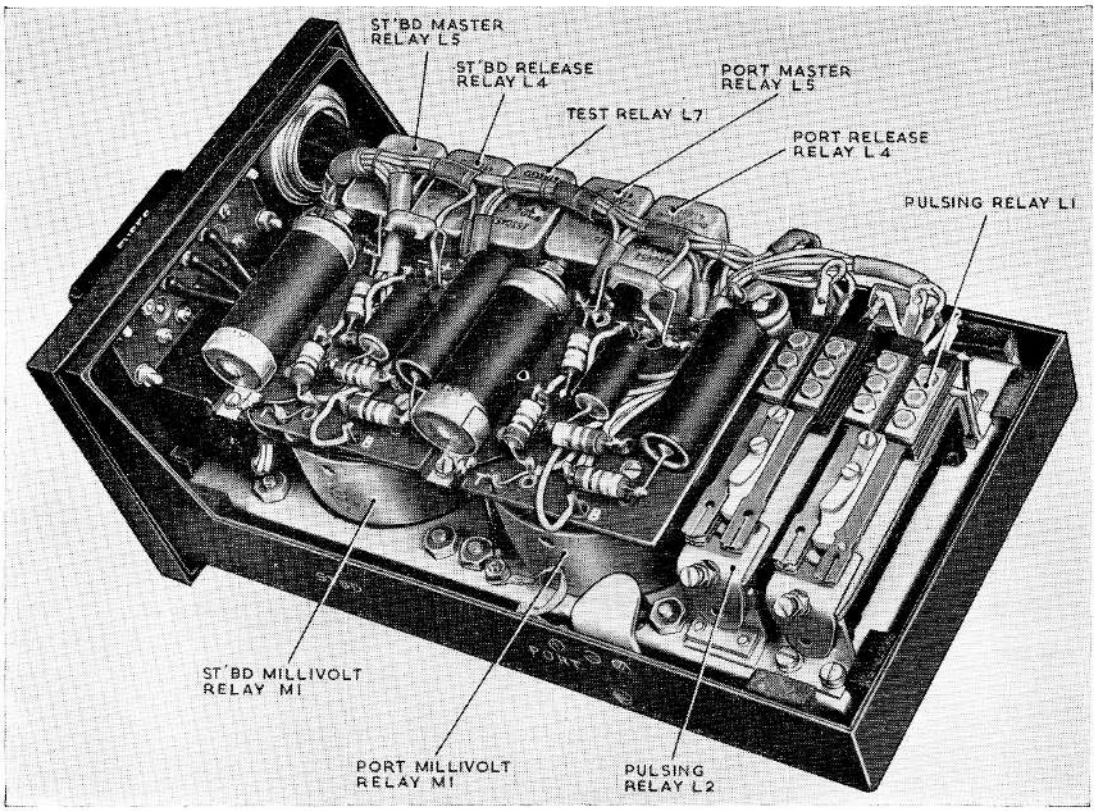

Fig. 2. Control unit with cover removed

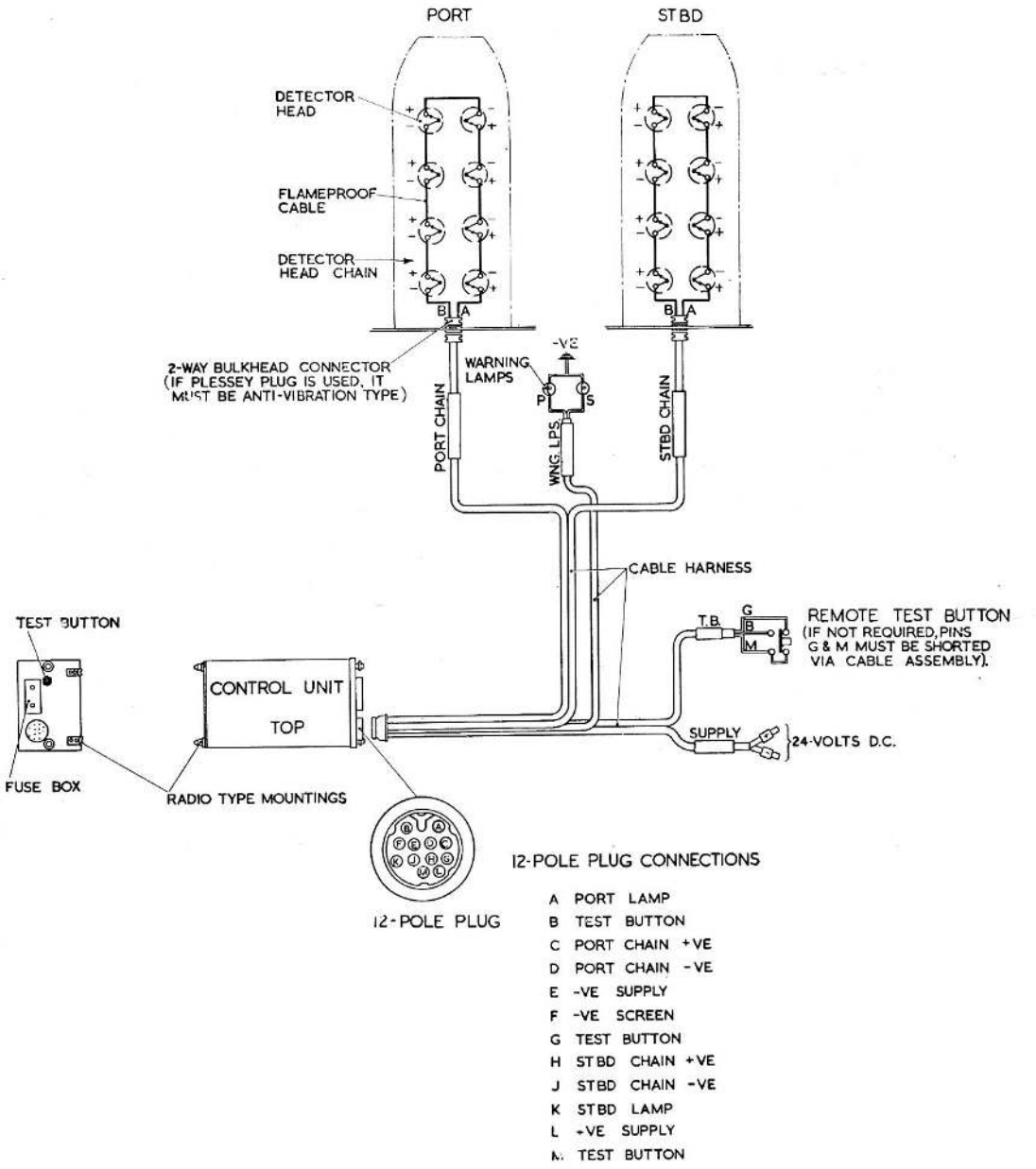

Fig. 3. Typical installation in a 2-zone fire warning system

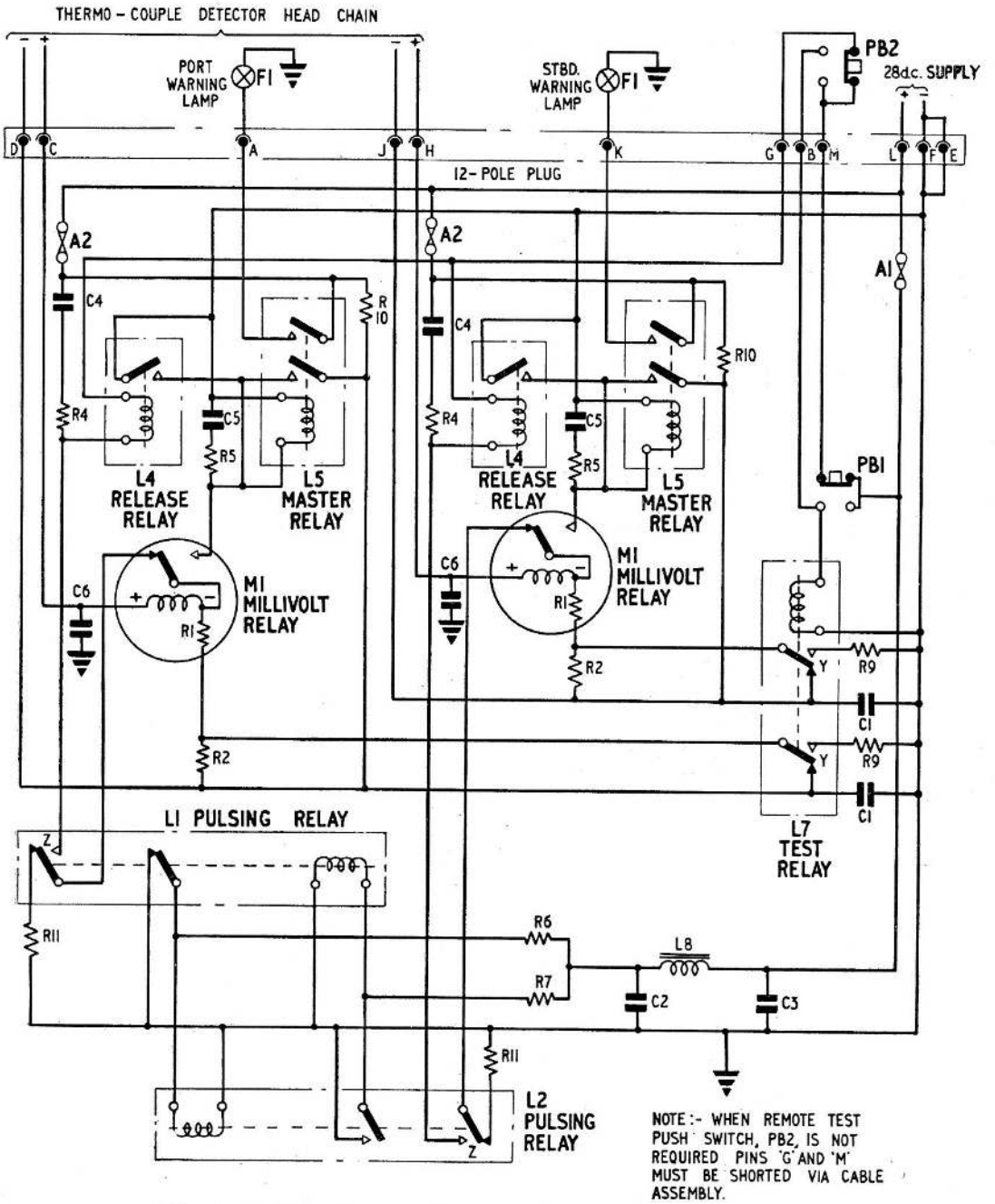

Fig. 4. Circuit diagram of control unit and external connections

TABLE 1

List of components

Reference	Component	Type
◀ Socket	Plessey, 12 pole, Mk. 4	CZ560180
Plug	Plessey, 12 pole, Mk. 4	CZ560150 ▶
A1	Fuse, 2·5A, Belling-Lee miniature	Glass cartridge
C1	Capacitor, 2μF, 350V d.c.	WA.19
C2	Capacitor, 0·75μF, 150V d.c.	WA.11
C3	Capacitor, 0·75μF, 150V d.c.	WA.11
C4	Capacitor, 0·1μF, 350V d.c.	CP45N
C5	Capacitor, 0·1μF, 350V d.c.	CP10N
C6	Capacitor, 0·1μF, 350V d.c.	WA.57
◀ L1	Relay, P.O., 1C.O./1B, 600 Ω	2400 (TP.5902)
L1	Relay, P.O., 1C.O./1B, 600 Ω	600 (TP.4502)
L2	Relay, P.O., 1M, 600 Ω	2400 (TP.5902)
L2	Relay, P.O., 1M, 600 Ω	600 (TP.4502) ▶
L4	Relay, S.T.C., 12V, 170 Ω, sealed	4184GC
L5	Relay, S.T.C., 12V, 170 Ω, sealed	4184GC
L7	Relay, S.T.C., 24V, 700 Ω, sealed	4184GD
L8	Choke, R.F., 0·5mH.	Dust cored
M1	Millivolt relay unit, 5 Ω coil, screened	0·5–0·75mA
PB1	Test switch push-button	10F.1786
R1	Resistor, 5 Ω, ¼W incorporated in M1	Wire wound
◀ R2	Resistor, 1 Ω ±5%, 4W	Wire wound vitreous (TP.5902)
R2	Resistor, 18 Ω, ¼W	Moulded carbon (TP.4502) ▶
R4	Resistor, 100 Ω, ¼W	Moulded carbon
R5	Resistor, 100 Ω, ¼W	Moulded carbon
R6	Resistor, 800 Ω, ½W	Moulded carbon

TABLE 1 (Continued)

Reference	Component	Type
R7	Resistor, 800 Ω, $\frac{1}{2}$W	Moulded carbon
◀ R9	Resistor, 1300 Ω ± 5%, 4W	Wire wound vitreous (TP.5902)
R9	Resistor, 5000 Ω, $\frac{1}{4}$W	Moulded carbon (TP.4502) ▶
R10	Resistor, 330 Ω, 4W	Wire wound vitreous
R11	Resistor, 150 Ω, $\frac{1}{4}$W	Moulded carbon