

Pressure Transmitters

PRESSURE TRANSMITTERS

MODEL S 122

Although primarily designed to operate with Weston Ratiometer Indicators, Model S 122 Pressure Transmitters are equally suitable for use with recording equipment or in special measuring and switching systems.

All forms of the Model S 122 contain a wire-wound potentiometer with a sliding contact which is actuated by a hydraulic unit.

This unit is in the form of a bellows and spring assembly for pressure ranges up to 120 p.s.i., whilst an "S"-shaped Bourdon tube is employed in transmitters rated at 600 p.s.i. and above.

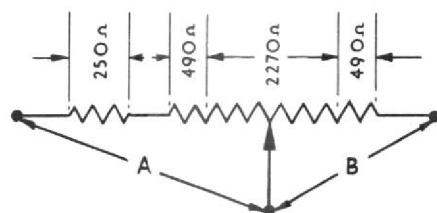
All hydraulic units are manufactured from a phosphor-bronze material compatible with most fluids and gases. Pipe connectors of $\frac{1}{8}$ in. B.S.P. are standard fitments.

Transmitters rated at 600 p.s.i. and over are also available fitted with a separator unit. Such transmitters, Forms 10 and 11, are suitable for use with corrosive fluids.

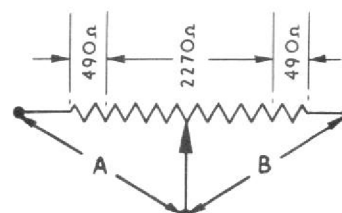
The potentiometer has a total resistance value of 3,250 ohms and the movement of the sliding contact is restricted to represent a resistance change of 2,270 ohms.

A value of not less than 490 ohms always remains on either side of the potentiometer arm (See Fig.1) Pressure transmitters with ranges of up to 120 p.s.i. have an additional fixed resistance value of 250 ohms. This is in series with the potentiometer winding and provides temperature compensation (See Fig. 2).

Electrical connections are brought out to either a special three-pin plug or three screw terminals (Figs. 3 and 4).



CALIBRATION

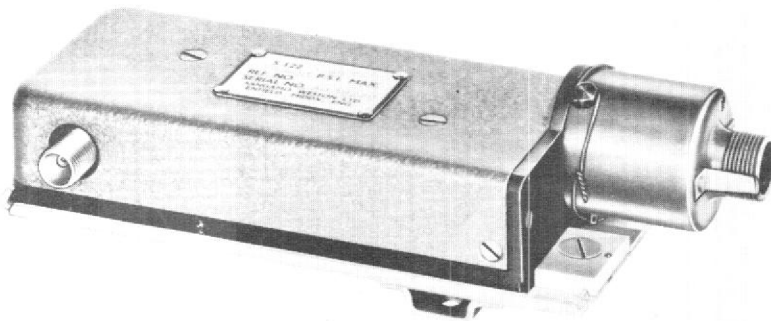


Medium Pressures

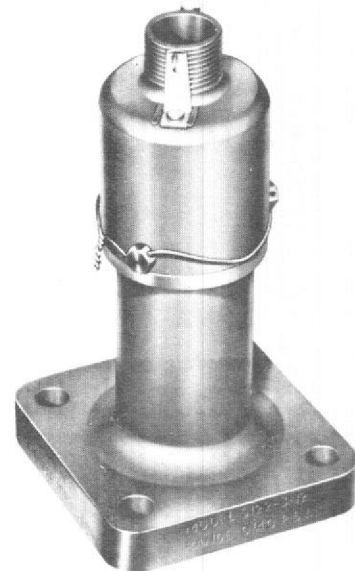
P.S.I.				Resistance		P.S.I.				Resistance	
0-40	0-60	0-80	0-120	A	B	0-40	0-60	0-80	0-120	A	B
0	0	0	0	3010	490	25	-	50	-	1570	1930
5	-	10	-	2715	785	-	40	-	80	1480	2020
-	10	-	20	2620	880	30	-	60	-	1290	2210
10	-	20	-	2425	1075	-	50	-	100	1110	2390
-	20	-	40	2235	1265	35	-	70	-	1015	2485
15	-	30	-	2140	1360	40	60	80	120	740	2760
20	30	40	60	1855	1645						

High Pressures

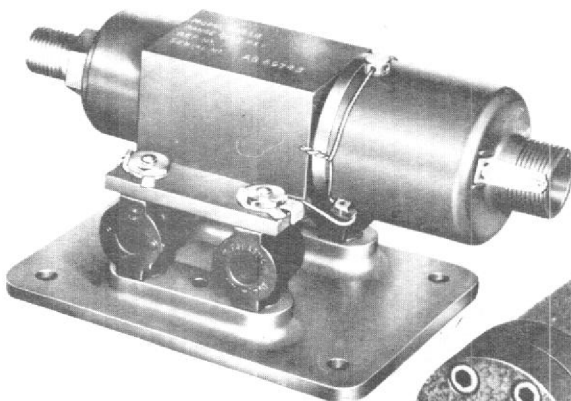
P.S.I.						Resistance		P.S.I.						Resistance	
0-600	0-1000	0-2000	0-3000	0-4000	0-6000	A	B	0-600	0-1000	0-2000	0-3000	0-4000	0-6000	A	B
0	0	0	0	0	0	2760	490	—	600	—	—	—	—	1380	1870
—	—	250	—	500	—	2465	785	—	—	1250	—	2500	—	1320	1930
100	—	—	500	—	1000	2370	880	400	—	—	2000	—	4000	1230	2020
—	200	—	—	—	—	2300	950	—	—	1500	—	3000	—	1040	2210
—	—	500	—	1000	—	2175	1075	—	800	—	—	—	—	935	2315
200	—	—	1000	—	2000	1985	1265	500	—	—	2500	—	5000	860	2390
—	—	750	—	1500	—	1890	1360	—	—	1750	—	3500	—	765	2485
—	400	—	—	—	—	1895	1415	600	1000	2000	3000	4000	6000	490	2760
300	—	1000	1500	2000	3000	1605	1645								



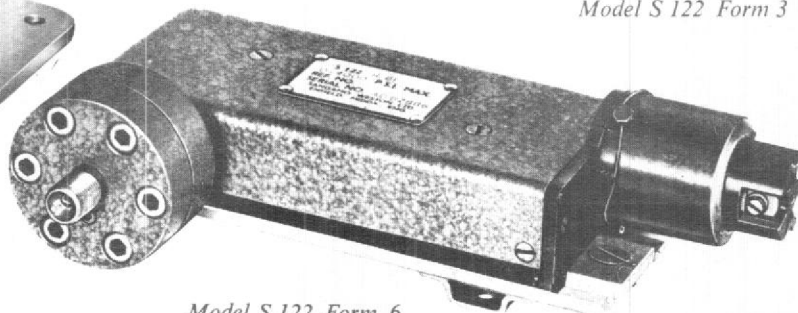
Model S 122 Form 4



Model S 122 Form 3



Model S 122 Form 1



Model S 122 Form 6

Form	Description	*Ranges (P.S.I.)	Electrical Connections	Approx. Weight	F.D.
1	Indirect mounting type	0-40, 0-60, 0-80, 0-120	Plug connector	9 oz (255 g)	755
3	Director mounting type	0-40, 0-60, 0-80, 0-120	Plug connector	8 oz (227 g)	757
4	Provision for mounting plate and A.V. mounts	0-600, 0-1000, 0-2000, 0-3000, 0-4000, 0-6000	Plug connector	12 oz (341 g)	886
6	Provision for mounting plate and A.V. mounts	0-600, 0-1000, 0-2000, 0-3000,	Screw terminals A5	12 oz (341 g)	1038
8	Indirect mounting type	0-40, 0-60, 0-80, 0-120	Screw terminals A5	9 oz (255 g)	1179
9	Direct mounting type	0-40, 0-60, 0-80, 0-120	Screw terminals A5	8 oz (227 g)	1266
10	Similar to Form 4 Fitted with separator unit	0-600, 0-1000, 0-2000, 0-3000,	Socket connector	14 oz (397 g)	1219
11	Similar to Form 6 Fitted with separator unit	0-600, 0-1000, 0-2000, 0-3000, 0-4000 0-6000	Screw terminals A5	14 oz (397 g)	1225

*The normal working pressure of transmitters with a range of 0-600 p.s.i. or above must not exceed $\frac{2}{3}$ of the maximum rated value.

ACCURACY: The accuracy of the Model S122 is $\pm 3\%$ of the maximum rated value but under static conditions Forms 10 and 11 may have an additional hysteresis error up to 12 p.s.i.; this however is eliminated in the aircraft installation when it is subjected to vibration.

AMBIENT TEMPERATURE RANGE: -40°C to $\pm 70^{\circ}\text{C}$

All ranges of transmitters can be used in conjunction with the pressure indicators referred to in Section 6.

High pressure transmitters, 0-600 to 0-6000 p.s.i., are supplied without quick release mounting plates and A.V. mounts. These accessories should be ordered as separate items.

Special 3-core leads fitted with integrally moulded sockets (See Section 18) are available for use with transmitters fitted with the standard 3-pin plug. Alternatively No.6BA screw terminals are provided.

WIRING DIAGRAMS FOR PRESSURE TRANSMITTERS

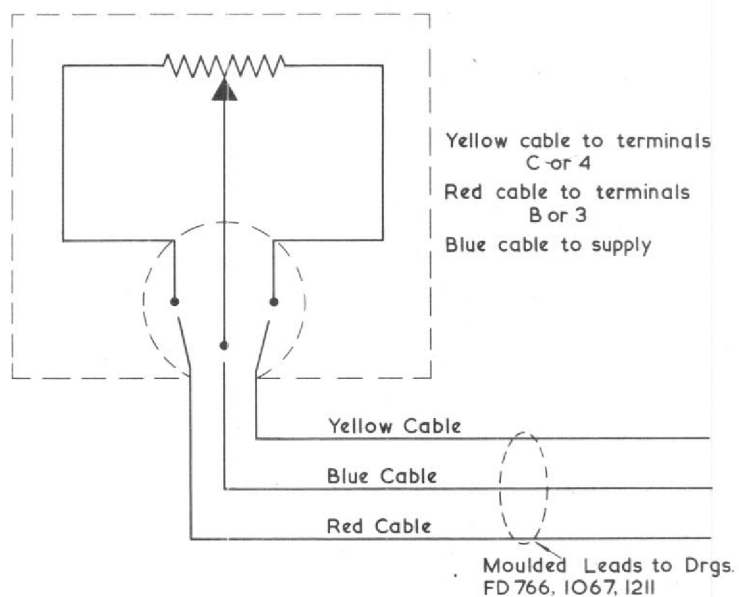


Fig. 3

Model S 122 transmitter with 3-pin plug

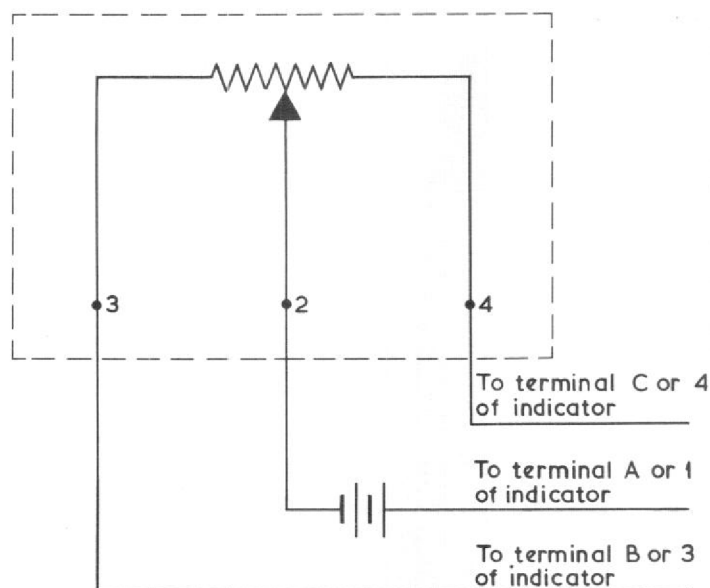


Fig. 4

Model S 122 transmitter with screw terminals



PREFERRED RANGES

RANGE P.S.I.	FORM 1
0-40	S122.1.16
0-60	S122.1.17
0-80	S122.1.15
0-120	S122.1.11

RANGE P.S.I.	FORM 6
0-600	S122.6.88
0-1000	S122.6.92
0-2000	S122.6.64
0-3000	S122.6.71
0-4000	S122.6.63
0-6000	S122.6.85

RANGE P.S.I.	FORM 3
0-40	S122.3.12
0-60	S122.3.18
0-80	S122.3.13
0-120	S122.3.14

RANGE P.S.I.	FORM 8
0-40	S122.8.83
0-60	S122.8.74
0-80	S122.8.91
0-120	S122.8.77

RANGE P.S.I.	FORM 4
0-600	S122.4.45
0-1000	S122.4.28
0-2000	S122.4.29
0-3000	S122.4.30
0-4000	S122.4.31
0-6000	S122.4.27

RANGE P.S.I.	FORM 10
0-600	S122.10.94
0-1000	S122.10.95
0-2000	S122.10.96
0-3000	S122.10.97
0-4000	S122.10.84
0-6000	S122.10.98

RANGE P.S.I.	FORM 11
0-600	S122.11.100
0-1000	S122.11.101
0-2000	S122.11.102
0-3000	S122.11.80
0-4000	S122.11.81
0-6000	S122.11.103

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