LINEAR DISPLACEMENT TRANSDUCERS

SERIES SP

DS EUROPE

DISPLACEMENT TRANSDUCERS

The transducers Series SP consist of two main parts: the *cylindrical body* of the transducer and the *movable core*. The cylindrical body encloses a differential transformer (=LVDT) and it has an axial bore in which can move, without physical contact, the core which position produces an electrical signal proportional to its displacement.

Peculiar features of the Series SP are: • Axial bore with internal metal tube. • Metal external housing and metal end lids. • Internal encapsulation and impregnation by insulation varnishes. • Generous radial clearance of the bore to allow a frictionless displacement of the core. • Great number of turns of the coils to assure: an infinite resolution, an high transformation rate and, together, measures extended to 1/100.000 th of full scale.

Typical applications: as sensor in feed-back control of actuators, in scales, in weighing systems, in gauge-heads, in machines, in measuring instruments, for general purpose where high resolution, sensitivity, linearity and convenient prices are required.

TECHNICAL SPECIFICATIONS

Mod.	Stroke	Sensitivity	Zero phase at	Resistance		Sizes		Core weight	OTHER SPECIFICATIONS
				prim.	sec.	A	B		The values listed in this table are typical and for excitation: 2,5 KHz.
	± mm	mV/V/mm	KHz	ohms		mm		grams	
SP 2,5	± 2,5	200	1,7	20	140	45	26	5	Non linearity: 0,25% FS.
SP 5	± 5	100	1,0	90	210	61	34	7	Excitation: 1÷10 Vpp; suggested: 6 Vpp.
SP 12,5	± 12,5	40	4,7	15	40	94	41	8	Frequency range.: 0,4÷10 KHz; suggested: 2,5 KHz.
SP 25	± 25,4	20	2,0	65	200	136	61	8	Null voltage: ≤ 0,5%FS, typical.
SP 50	± 50	10	1,5	320	580	200	61	12	Temperature effect on zero and sensitivity: ≤ 0,01% FS/°C
SP 100	± 100	5	1,8	650	1000	342	91	17	Operating temperature range: -55÷ + 110°C.
									Colour code: primary: 2 = red; secondaries: black-yellow; common: blue-green.

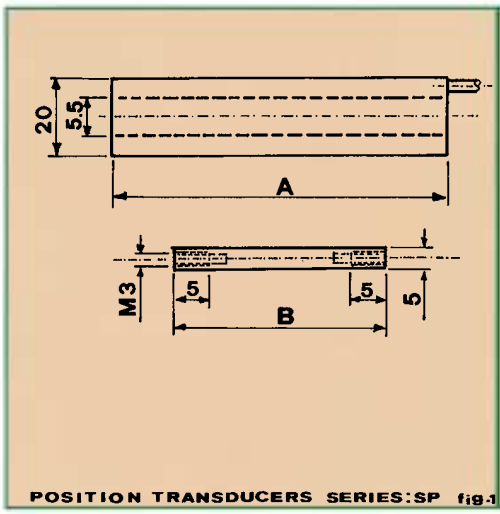
The frequency at phase zero primary/secondaries coincides to the best linearity and null voltage and to the lowest temp. sensitivity.

SIGNAL CONDITIONERS

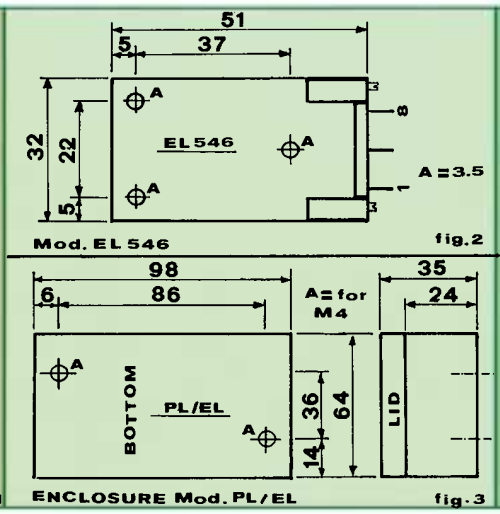
The signal conditioners enclose two general purpose models with the same electrical circuits, excepted the power supply, with zero and gain regulations and with enclosures as option (suffix: -PL).

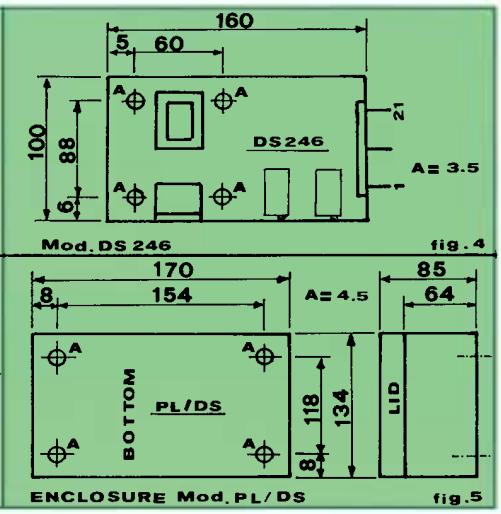
• The **Mod. EL546** is a compact DMS printed circuit board (fig. 2-3). The internal stabilizer and polarity inverter allow a wide range of unipolar DC supply voltages (from 10,5 to 28 V), even not stabilized, which bring the installation independent from the distance of the main power supply and to the thermal voltage drops on the cable.
• The **Mod. DS 246** (fig. 4-5) is a printed circuit board in Eurocard sizes: 160x100 mm, complete with transformer and rectifier circuit for a direct connection to the mains: 110-220 V; 50÷60 Hz.

Features common to both the models are: Zero regulation: ±20%FS (option: ± 100% FS) and gain regulation: 1 to 20 times; Sinusoidal internal oscillator (6 Vpp; 2,5 KHz) with amplitude stabilizer and low-pass filter: for a better stability of the output signal and lower null-voltage; Power stage: sufficient for the excitation of any LVDT transducer. Power DC output stage.



POSITION TRANSDUCERS SERIES:SP fig.1





Technical specifications and prices may change without notice.

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