

EUROPE FORMAT INDUCTIVE TRANSDUCER CONDITIONER : SX 9130 SERIES



DESCRIPTION

The 9130 unit is a signal conditioner in «Europe» format, fully compatible with the Sensorex 9000 series rack.

This card conditions all LVDT and RVDT types.

MAIN FUNCTIONS OF THE 9130 UNIT :

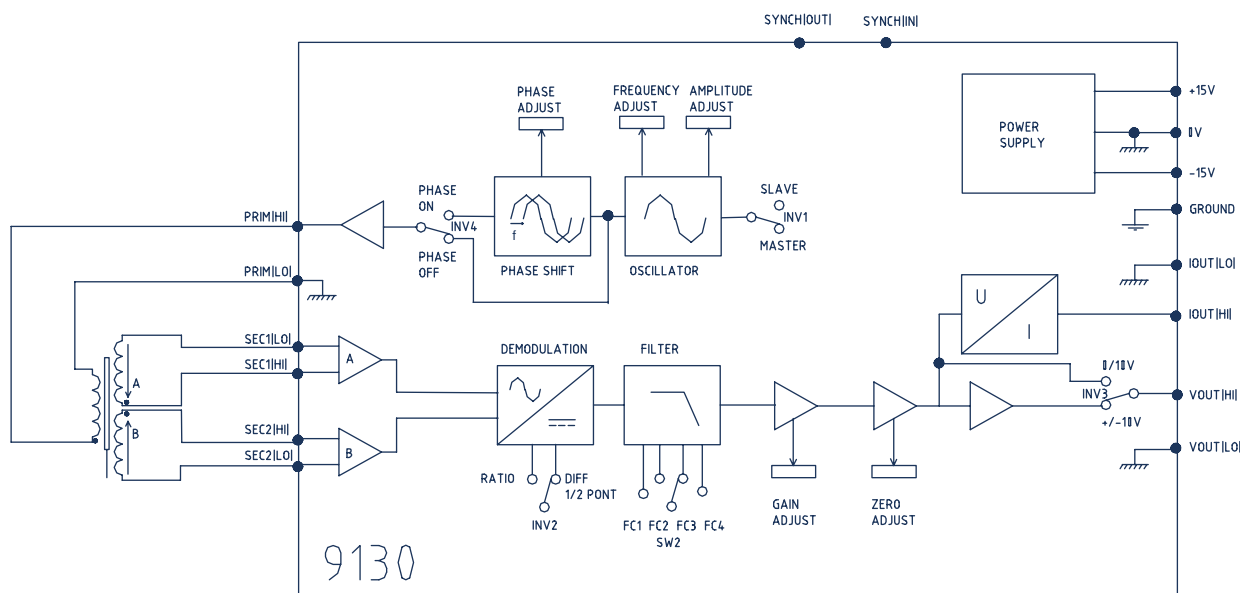
- Conditioning of linear or rotational differential transformer sensors, complete half bridge and ratiometric configuration
- Adjustable excitation voltage (until 7.5 VRMS)
- Adjustable excitation frequency (800 to 15000 Hz)
- Adjustable phase shift correction (from - 70 to + 50°)
- Master / slave synchronisation (to reduce the cross-coupling phenomenon)
- DIN 41612 connection (a + c, 2 x 32 contacts)

The output signal is available in different formats : 0/10 V or ± 10 V and 4/20 mA.

The 9130 unit is used for conditioning all types of LVDT and RVDT sensors :

- Half bridge 3 wire
- Differential 4, 5 and 6 wire
- Ratiometric 5 and 6 wire

SYNOPTIC



CHARACTERISTICS AT 25 °C

Power Supply

Power Supply	- 15 VDC \pm 1V	+ 15 VDC \pm 1V
Max Consumption (@ max load sensor and Iout=20mA)	50 mA	75 mA

Sinus voltage excitation

Amplitude	0 to 7,5 Vrms
Frequency	800 to 15000 Hz
Frequency accuracy with potentiometer (@25°C, 800 to 3500 Hz)	\pm 0,2 %
Max current	15 mArms
Output impedance	0,3 Ω typ
Phase shift range (@Fexc = 3,5kHz)	- 70° to + 50°

DC voltage Output

Output voltage	0/10 VDC or \pm 10 VDC
Current output short-circuit	\pm 75 mA max.

DC current Output

Output current	4 / 20 mA
Max load resistor	600 Ω

Demodulator

Typical input impedance	66k Ω // 800 pF				
Input voltage (A or B)	5,5 Vrms max				
Gain range (Vout DC / (A-B)rms)	0 to 70 Vdc / Vrms				
Non linearity	0,04 % FSO max.				
Resolution (Bandwidth = 10 Hz, Fexc = 3500 Hz)	\pm 0,005 % of FSO				
Filter reponse	Butterworth second order				
Bandwidth (-3 db) selectable with SW2 (+/- 10%)	3000 Hz	400 Hz	100 Hz	40 Hz	10 Hz
Reponse time (Tr 95%)	200 μ sec	1,5 msec	6 msec	15 msec	50 msec
Residual demodulation (@ Fexc= 3,5 kHz for 10 to 400 Hz bandwidth, and Fexc = 15 kHz for 3000 Hz bandwidth)					
\pm 10 V output	35 mVrms	15 mVrms	4 mVrms	2 mVrms	1 mVrms
0-10 V output	18 mVrms	8 mVrms	2 mVrms	1 mVrms	0,7 mVrms
4-20 mA	35 μ Arms	15 μ Arms	4 μ Arms	2 μ Arms	1,7 μ Arms

Temperature

Storage Temperature	- 40 to - 85 °C
Operating temperature	0 to 70 °C

Thermal Drift

Thermal sensitivity drift	< 200 ppm / °C
Thermal Zero drift	< 50 ppm / °C / FSO

Format

Europe	160 x 100 x 25,1 mm
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