

SINGLE / DUAL AXIS SILICIUM INCLINOMETER : SX 461XX SERIES



SPECIFICATIONS

- 2 versions: single and double-axis
- Small size
- Low power consumption
- Tension and current output
- Excellent stability
- Robust

GENERAL DESCRIPTION

The SX461XX inclinometer is based on a silicium capacitive cell, to which the 4 following functions are associated :

- Power supply regulator, thus enabling the sensor to accept a non regulated 9-to-36V excitation Voltage.
- The output signal of the silicon cell is amplified, and gain and zero are adjusted.
- Output signal filtering, in order to reduce the sensor's sensivity to external vibrations situated above a 10Hz frequency.
- Protection against electromagnetic disturbances. (CE)

The sensor's high level (0/5V and 4/20 mA) output signals are proportional to the sine of the angle.

Available in single and double-axis (2 perpendicular axis), this sensor can easily be integrated in any mechanical system, thanks to its compact and robust housing.

APPLICATIONS

- Road and Rail construction
- Structure monitoring
- Platform levelling
- Safety shutoff (crane and dumpers)

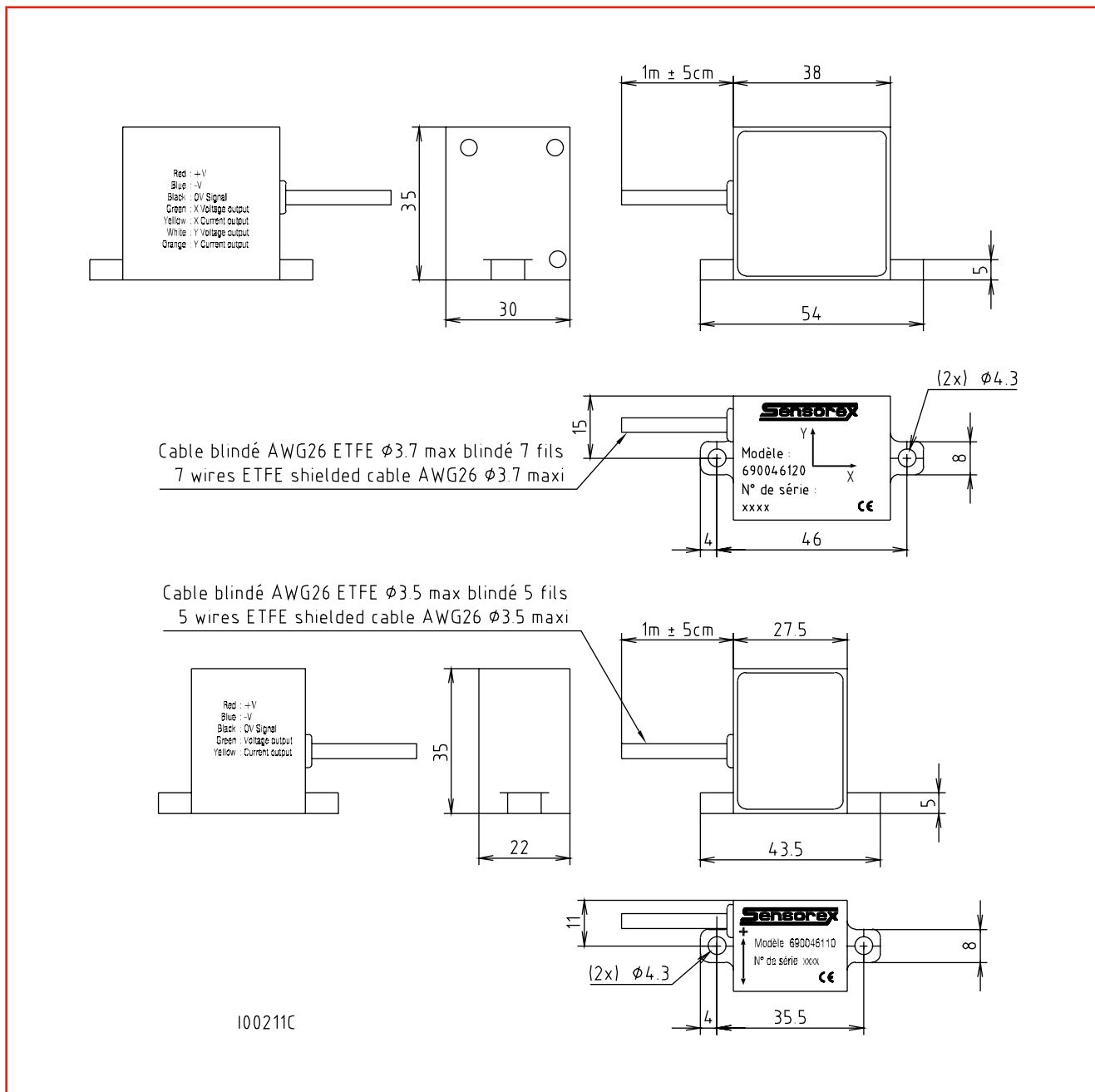
GENERAL SPECIFICATIONS

Range	$\pm 5^\circ$; $\pm 15^\circ$; $\pm 30^\circ$; $\pm 90^\circ$
Excitation voltage	9 to 36 V (non regulated) <i>(Note 1)</i>
Consumption	5 mA / axis, excluding 4-20 mA output
Output voltage (proportional to the sine)	0 to 5 V $\pm 5\%$ and 4/20 mA $\pm 5\%$
Zero signal	2,5 V ± 20 mV and 12 mA $\pm 0,1$ mA
Linearity error (least squares)	$< \pm 0,7\%$ FS
Non repeatability and hysteresis	0,01 % FS
Electrical noise	< 3 m Vrms
Output impedance	< 10 Ohms
Bandwidth (at -3 dB)	10 Hz
Cross-axis sensitivity	$< 0,03$ g/g
Perpendicular error (double axis version)	$< 0,5^\circ$
Thermal zero drift	0,01 $^\circ$ /C typical ; 0,02 $^\circ$ /C max
Thermal sensitivity drift	100 ppm/ $^\circ$ C typical ; 250 ppm/ $^\circ$ C max
Operating temperature range	- 40 $^\circ$ C to + 125 $^\circ$ C <i>(Note 2)</i>
Shocks	200 g / 11 ms
Vibrations	20 grms (20 à 2000 Hz)
Protection	IP 65
Electro-magnetic compatibility	NF-EN 61326-1
Weight	60 gr (1 axis) ; 100 gr (2 axis)

Note 1 : Load resistance (current output) 300 Ohms max. for 9 V power supply.

Note 2 : The temperature coefficient is defined for the temperature range - 40 to + 50 $^\circ$ C. Within this range, the drift is linear.

INTERFACE DRAWING



SELECTION GUIDE

Range	$\pm 5^\circ$	$\pm 15^\circ$	$\pm 30^\circ$	$\pm 90^\circ$
1 axis	Sxi 46115	Sxi 46116	Sxi 46117	Sxi 46118
2 axis	Sxi 46125	Sxi 46126	Sxi 46127	Sxi 46128