



XN4-V2	
DIGITALLY CONTROLLED STRAIN GAUGE AMPLIFIER	
Ref :	
S/N:	Software version :

Texys sensors are designed for data recording. If the user wants to include this sensor in a close loop system or active control, he must assume all responsibility.

Supply Voltage	5 to 16	V	
Supply Current (Amplifier only)	< 5	mA	
Bridge supply voltage (internal)	5	V	
Bridge gauge impedance	120 to 1000	Ω	
Output signal	0-5*	V	
Output impedance	100	Ω	
Parameters: Offset, Gain, Compensation			
Offset	by VPROG	0.5 to 2.5	V
	by Tx/Rx **	0 to 5	V
Gain	by VPROG	2.6 to 4.5	V
	by Tx/Rx	70 to 1250	V/V
Cut off frequency (1 pole filter) Adjustable by "Bandwidth" capacitor See table		90 (Default) up to 8KHz	Hz
Temperature measurement			Internal Temperature Probe (NTC) or external for remote application
Offset drift with temperature		<10	mV
Gain drift with temperature		0.2	%
Temperature compensation	Offset	by self training in oven start by VPROG pin or one wire	
	Gain	by resistor "R Metal" depending on part & gauge material or by Tx/Rx wire digital PPM	
Max initial recommended bridge unbalance	120	1.5	mV
	350	2	mV
	1000	3.5	mV
Dimensions	XN4	14x11x4	mm
	XN4-P	TBD	
Material		PCB + Epoxy + inox cover	
Weight (without cable)		1	g
Vibration test		20Gpp 5'	
Shock		500	G
Accuracy Temp		-20 to +125	°C
Operating Temp		-40 to +125	°C
Storage Temp		-40 to +125	°C

* Limited by supply voltage.

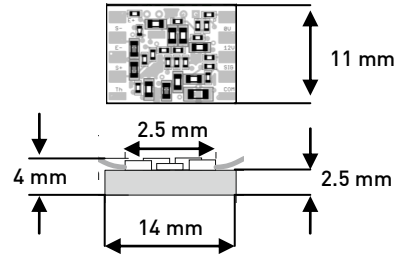
**Tx/Rx only with Texense USB Connect 1-Wire 5V.

Ordering ref:
XN4
XN4-P (0.5W)

Readings	
V out @ _____ mV input	V out @ _____ mV input

Cut Off Frequency		Hz		
R Metal		Ohms		
V Metal		V		
PPM		Ppm/°C	ANA	DIG
Offset		V	ANA	DIG
gain		V/V	ANA	DIG

XN4-P amplifier
For 120 ohms strain gauges, use the XN4-P for a better power dissipation up to 0.5W.



R Metal value for gain temperature compensation (Constantan gauges)

Material of strain gauged part	Usual coeff %/°C	PPM/°C	R Metal
Steel (default)	-0.033	-330	20KΩ
Titanium	-0.050	-500	27KΩ
Aluminum	-0.059	-590	33KΩ
No compensation (if XN4 is used with a compensated gauge bridge)	0	0	11.5KΩ

Digital communication commands

38400 bauds / 8 bits data / 1 stop / no parity / no flow control

command	value	min	max	
offset	'o'	2500	0 5000	to set offset (mV)
gain	'g'	4995	700 12500	to set gain (tenth)
ppm	'p'	-335	-1000 1000	ppm/°C (DIG).
ppm_dig	'u'	0	0 1	ppm DIG or ANA.
out_dig	'd'	0	0 1	DIG output 100Hz.
timeout	't'	5	2 12	for self learning.
compens	'c'	(5hours max)		Start of a self learning in oven.
table	'x'			Displays the compensation table.
erase	'e'			To erase the compensation table.
check	'v'			To enter in Check mode.
header	'h'			Displays this header.
reboot	'!'			Reboot the XN4.

Bandwidth capacitor values

apacitor	Fc	Capacitor value: $\frac{1}{2\pi Fc \times 18000}$
220nF	40Hz	
100nF	90Hz (Default)	
47nF	190Hz	
1nF	9kHz	

