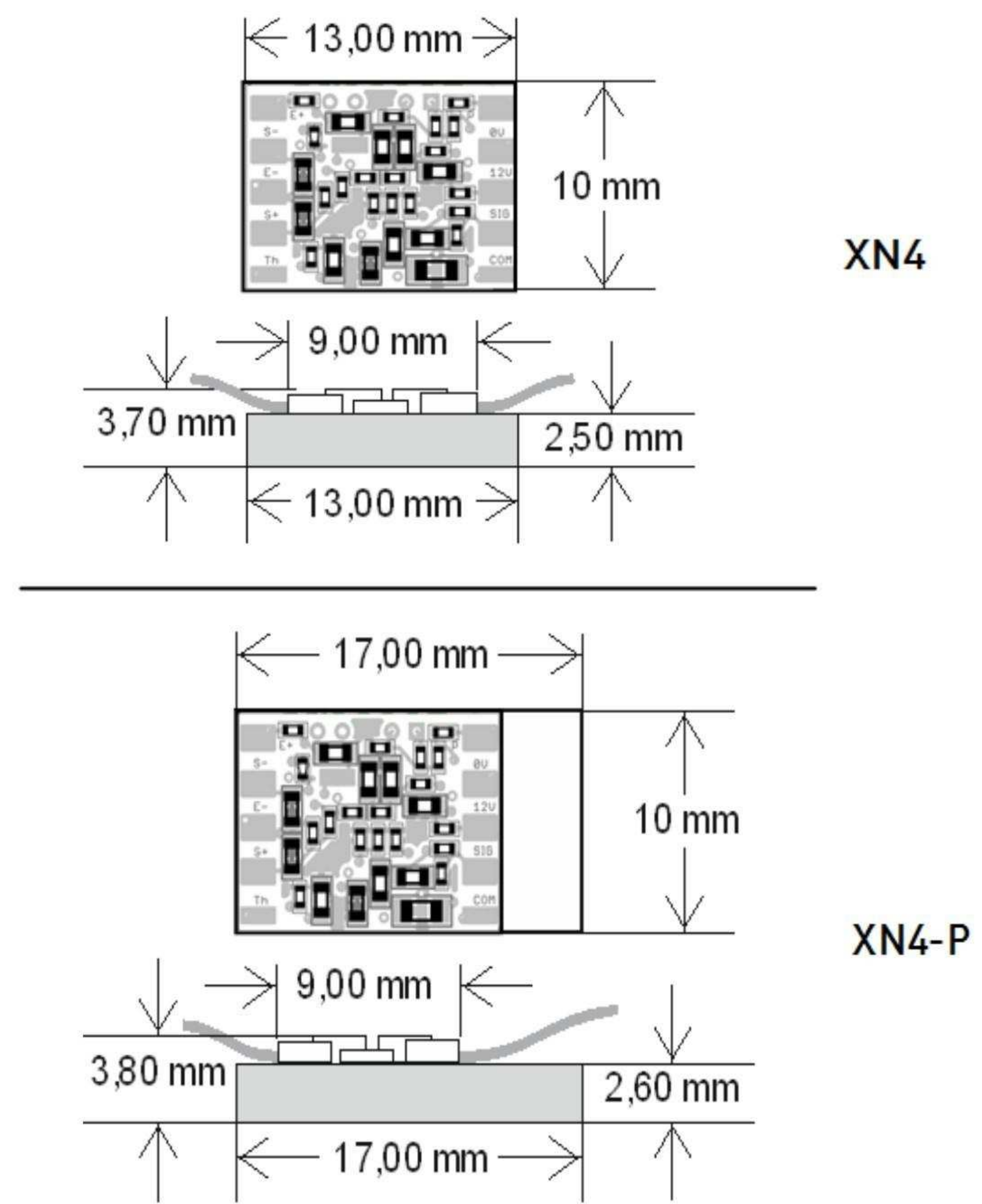


XN4

Digital controlled strain gauge amplifier

Supply voltage	6 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
Offset by VPROG by Tx/Rx *	0.5 to 2.5 V 0 to 5 V
Gain by VPROG by Tx/Rx *	2.6 to 4.5 V (under force) 70 to 1250 V/V
Cut off frequency (1 pole filter)	90 (default) up to 8 KHz
Offset drift with temperature	< 10 mV
Gain drift with temperature	0.2 %
Temperature compensation:	
- Offset	By self-training in oven
- Gain	By resistor R metal depending on part & gauge material or by Tx/Rx wire digital PPM
Max initial recommended bridge unbalance	
..... 120 Ω	1.5 mV
..... 350 Ω	2 mV
..... 1000 Ω	3.5 mV
Dimensions XN4	13x10x4 mm
XN3 -P (120 Ω groups)	17x10x4 mm
Material	PCB + Epoxy encapsulation
Weight	1g
Shock	500 G
Operating temp	-20 to +125 °C
Storage temp	-40 to +125 °C



Digital communication commands

command	value	min	max	
offset 'o'	2500	0	5000	offset in mV
gain 'g'	4995	700	12500	gain in tenth
ppm 'p'	-335	-1000	1000	ppm/°C (DIG)
ppm_dig 'u'	0	0	1	
out_dig 'd'	0	0	1	
timeout 't'	5	2	12	
compens 'c'	(5hours max)			
table 'x'				
check 'v'				
header 'h'				
reset '!'				

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
Aluminium	-0.059	-590	33KΩ
No compensation (if XN4 is used with a compensated gauge bridge)	0	0	11.5KΩ

Bandwidth capacitor values

Capacitor	Fc	Capacitor value = 1/(2π Fc x 18000)
220nF	40Hz	
100nF	90Hz (Default)	
47nF	190Hz	
1nF	9kHz	

In the interest of continuous product improvement, we reserve the right to alter without prior notice the specifications and features described in this document.

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