



FEATURES

- Compact size
- Easy to use
- High Signal/Noise ratio
- Uncooled detector
- Additional accessories available
- Custom design upon request

APPLICATIONS

- Contactless temperature measurement
- Laser radiation detection
- Gas analysis
- Fourier spectroscopy
- Fire, flame and human body detection
- Pyrometers, scanners
- Nondestructive material testing

SPECIFICATION

Parameter	Unit	Typical Value	Conditions, Remarks
Input noise voltage density e_n	nV/ $\sqrt{\text{Hz}}$	0.97 – 8.0 ¹⁾	VPAC, VPDC, $f_0=100\text{kHz}$ ³⁾
Input noise current density i_n	pA/ $\sqrt{\text{Hz}}$	0.97 – 3.5 ¹⁾	VPAC, VPDC, $f_0=100\text{kHz}$ ³⁾
Detector capacitance C_i	pF	≤ 100 ²⁾	
Cut-on frequency f_{io}	Hz	DC 10 or 10 ³	VPDC VPAC
Cut-off frequency f_{hi}	MHz	≤ 20	VPDC, VPAC
Transimpedance K_i	V/A	up to 10 ⁵	VPAC, VPDC
Output impedance R_{out}	Ω	50	
Output voltage swing V_{out}	V V V	± 10 ± 5 ± 1.5	$f_{hi} \leq 1\text{MHz}$, $R_L=1\text{M}\Omega$ ⁴⁾ $f_{hi} \leq 10\text{MHz}$, $R_L=1\text{M}\Omega$ ⁴⁾ $f_{hi} \leq 20\text{MHz}$, $R_L=50\Omega$ ⁴⁾
Output voltage offset V_{off}	mV mV	≤ 20 ≤ 20	VPAC VPDC
Power supply voltage V_{sup}	V V V	± 15 ± 9	$f_{hi} \leq 1\text{MHz}$ $1\text{MHz} < f_{hi} \leq 20\text{MHz}$
Power supply current I_{sup}	mA	± 25	
Dimensions	mm	50x104x23.5	width x depth x height
Mass	g	260	

Electrical characteristics @ $T_a=20^\circ\text{C}$

¹⁾ The preamplifier noise may significantly reduce the system performance in some situations, however. This happens for large capacitance detectors operating at high frequencies.

²⁾ For 100pF detector capacitance available bandwidth is ~10MHz

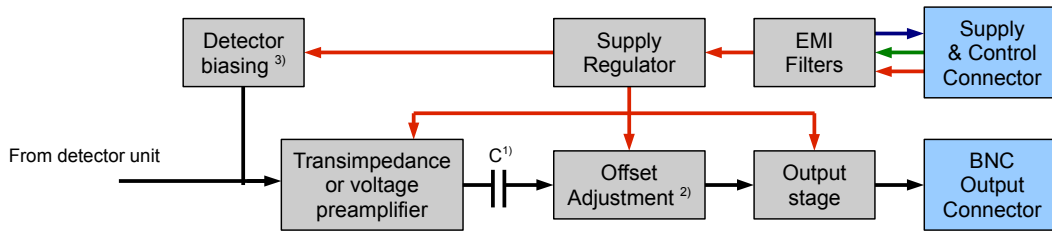
³⁾ f_0 – Noise measurement frequency

⁴⁾ R_L – Load resistance

DESCRIPTION

The **VPXC-xxS** is stand alone preamplifier dedicated suitable for operation with VIGO System's uncooled infrared detectors. Both AC and DC coupling is available. The detector bias circuit included.

SCHEMATIC DIAGRAM



- 1) Only for AC-coupled preamplifiers
- 2) Only for DC-coupled preamplifiers
- 3) Only for biased detectors

PREAMPLIFIER/MODULE CODE DESCRIPTION

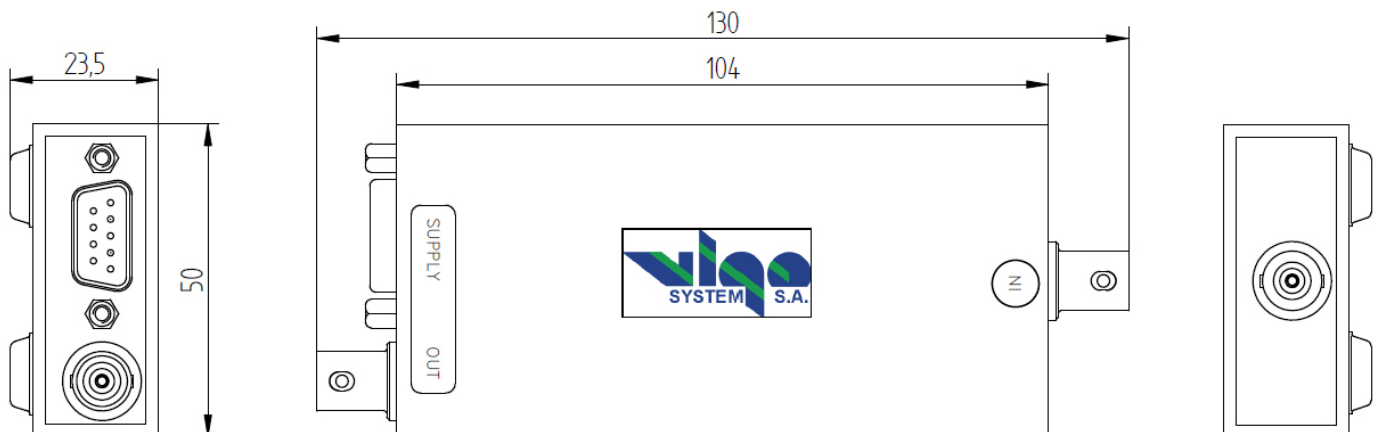
VPXC-xxS

- XX – Coupling type – AC or DC
- xx – High cut-off frequency: 0.1, 0.3, 1, 5, 10, 20 MHz

The preamplifier can be integrated with following types of uncooled IR detectors:

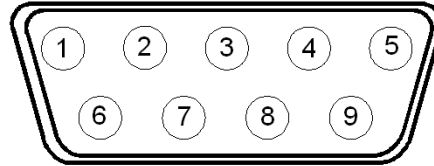
Detector Type	Description
PC	Photoconductive
PCI	Photoconductive, optically immersed
PV	Photovoltaic
PVI	Photovoltaic, optically immersed
PVM	Multiple heterojunction photovoltaic
PVMI	Multiple heterojunction photovoltaic, optically immersed

DIMENSIONS [mm]




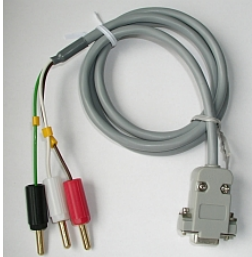


POWER SUPPLY CONNECTOR

Pin Number	Symbol	Function
1	N.C.	Not connected
2	N.C.	Not connected
3	GND	GND
4	N.C.	Not connected
5	N.C.	Not connected
6	-V _{sup}	Power supply input (-)
7	N.C.	Not connected
8	N.C.	Not connected
9	+V _{sup}	Power supply input (+)



DB9 Connector

ACCESSORIES

BNC-BNC	DB9 - 4mmPLUGS	DB9 - DB9	PPS-02
			

Signal input or output cable

Preamplifier supply cable
for own supply

Preamplifier supply cable
for PPS-02

Preamplifier power supply