



Features

- Compact size
- High signal-to-noise ratio
- Bandwidth up to 20MHz
- Dedicated to operate with uncooled detector in BNC package
- Custom configurations upon request
- Additional accessories available

Applications

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

Description

VIP is the transimpedance, AC or DC coupled, standalone preamplifier. It is dedicated for operation with uncooled, no biasing IR detectors in BNC packages.

Preamplifier Specification

Parameter	Symbol	Unit	Typical Value	Conditions, Remarks
Input Noise Voltage Density	e_n	$\frac{nV}{\sqrt{Hz}}$	0.97 – 8.0 ¹⁾	$f_o = 100 \text{ kHz}^2)$
Input Noise Current Density	i_n	$\frac{pA}{\sqrt{Hz}}$	0.02 – 3.5 ¹⁾	$f_o = 100 \text{ kHz}^2)$
Low Cut-Off Frequency	f_{lo}	Hz	DC 10 to 10k	DC coupling set AC coupling set
High Cut-Off Frequency	f_{hi}	Hz	100k to 20M	
Transimpedance	K_i	$\frac{V}{A}$	up to 10 ⁵	
Output Impedance	R_{out}	Ω	50	
Output Voltage Swing	V_{out}	V	± 10 ± 2 ± 1	$f_{hi} \leq 1 \text{ MHz}, R_L = 1 \text{ M}\Omega^3)$ $1 \text{ MHz} < f_{hi} \leq 20 \text{ MHz}, R_L = 1 \text{ M}\Omega^3)$ $20 \text{ MHz} < f_{hi} \leq 250 \text{ MHz}, R_L = 50 \Omega^3)$
Output Voltage Offset	V_{off}	mV	≤ 20	DC and AC coupling set
Power Supply Voltage	V_{sup}	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	-	mmxmmxmm	50x104x23.5	widthxdepthxheight
Weight	-	g	260	

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

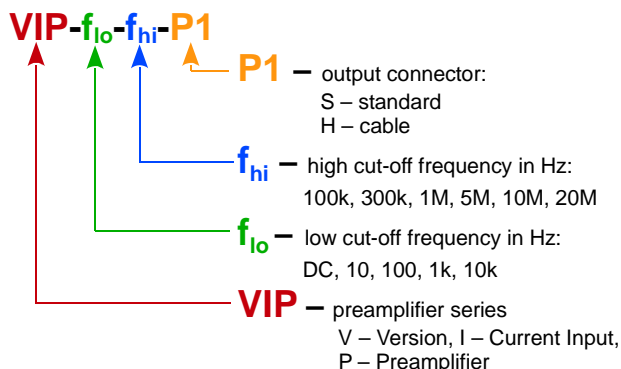
¹⁾ The preamplifier noise may significantly reduce the system performance in some situations.

This happens for large capacitance detectors operating at high frequencies

²⁾ f_o – noise measurement frequency

³⁾ R_L – load resistance

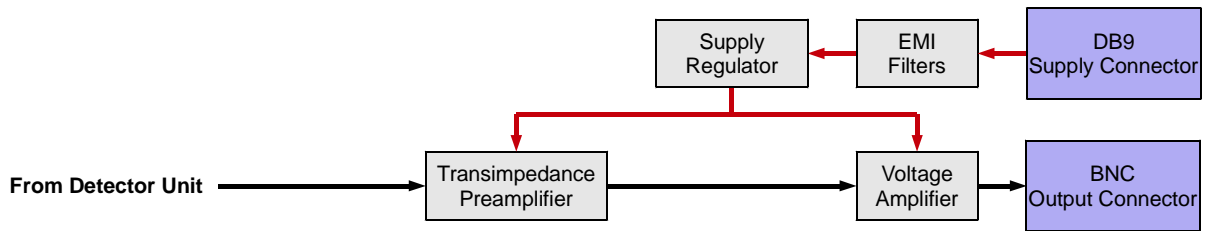
Preamplifier Code Description



The preamplifier can be integrated with following types IR detectors:

Detector Type	Description
PV	photovoltaic
PVI	photovoltaic, optically immersed
PVM	multiple heterojunction photovoltaic
PVMI	multiple heterojunction photovoltaic, optically immersed

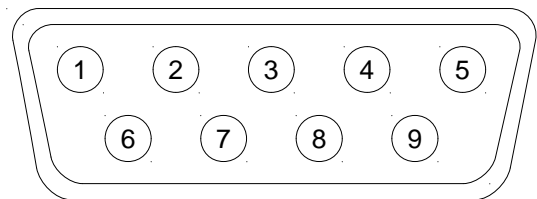
Schematic Diagram



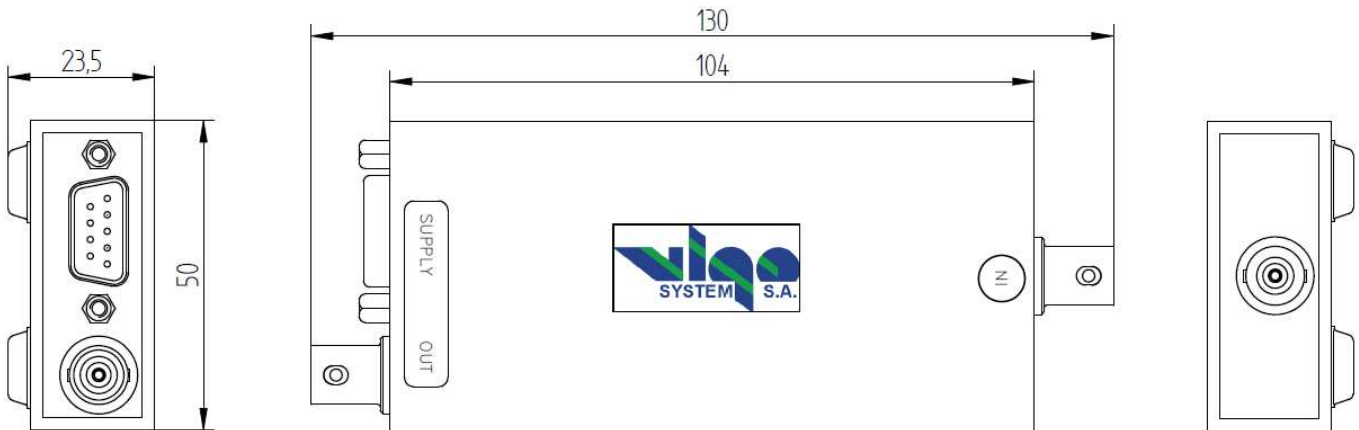
Power Supply Connector

Pin Number	Symbol	Function
1	N.C.	not connected
2	N.C.	not connected
3	GND	power ground
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 Male



Physical Dimensions [mm]



Recommended Accessories

PPS-02	PPS-03	MPPS-01	BNC-BNC	DB9-DB9
				
Pre-amplifier Power Supply	Pre-amplifier Power Supply	Pre-amplifier Power Supply	Signal Input or Output Cable	Pre-amplifier Supply Cable
DB9-4mmPLUGS	DB9-MIC5	AC Adaptor	Power Cable EU	Power Cable UK
				
Pre-amplifier Supply Cable	Pre-amplifier Supply Cable	Power Supply Adaptor	Power Cable	Power Cable
Power Cable US	DRB-1	DRB-2	MP	PH
				
Power Cable	Base Mounting System	Base Mounting System	Mounting Post	Post Holder
STA-8x1-4	DH-BNC-1	DH-BNC-2		
		AVAILABLE SOON		
Special Thread Adapter	Detector's Holder	Detector's Holder		