VPAC-xxS, VPDC-xxS Series

STAND ALONE PREAMPLIFIER

FEATURES

- Compact size
- Easy to use
- High Signal/Noise ratio
- Bandwidth up to 250 MHz
- TE cooled detector
- Additional accessories available
- Custom design upon request

APPLICATIONS

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

DESCRIPTION

The infrared detector is integrated with AC or DC coupled transimpedance or voltage preamplifier. High performance is achived with individual matching of the IR detector to the preamplifier and good heat dissipation management.

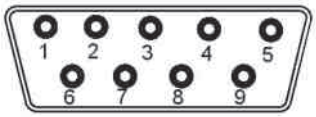
SPECIFICATION

Parameter	Symbol	Unit	Typical Value	Conditions, Remarks
Input Current Noise	i_n	**pA/√Hz**		VPAC, VPDC, f_o=1kHz
Low Cut-Off Frequency	f_{lo}	**Hz** **Hz**	0 10 or 10^3	VPDC VPAC
High Cut-Off Frequency	f_{hi}	**MHz**	≤250	VPDC, VPAC
Transimpedance	K_i	**V/A**	up to 10^5	VPAC, VPDC
Detector Bias Voltage	V_{det}	**mV**	≤300	optimised for detector type
Detector Bias Current	I_{det}	**mA**	≤15	optimised for detector type
Output Voltage Swing	V_{out}	**V** **V** **V** **V** **V** **V** **V** **V** **V**	±10 ±10 ±5 ±7 ±2 ±1.75 ±1 ±1 ±1	100kHz < f_{hi} < 300 kHz, R_L=1MΩ 300kHz < f_{hi} < 1MHz, R_L=1MΩ 1MHz < f_{hi} < 5MHz, R_L=1MΩ 5MHz < f_{hi} < 10MHz, R_L=1MΩ 10MHz < f_{hi} < 20MHz, R_L=50Ω 20MHz < f_{hi} < 50MHz, R_L=50Ω 50MHz < f_{hi} < 100MHz, R_L=50Ω 100MHz < f_{hi} < 250MHz, R_L=50Ω
Output Voltage Offset	V_{off}	**mV** **mV**	≤20 ≤20	VPAC VPDC
Power Supply Voltage	V_{sup}	**V** **V** **V**	±9 ±12 ±15	f_{hi} ≥ 50 MHz 20 MHz < f_{hi} < 50 MHz 5 MHz < f_{hi} < 20 MHz
Power Supply Current	I_{sup}	**mA**	±25	no detector biasing
Mass		**g** **g**	360 500	DR-1 DR-10

Electrical characteristics @ T_a=20ºC, V_{sup}= ±15V.

PIN CONFIGURATION

Power supply and cooling control connector configuration:



Pin	Function
1	Thermocooler (+)
2	Thermocooler (-)
3	GND
4	Thermistor (+)
5	Thermistor (-)
6	Power supply input (-)
7	GND
8	N.C.
9	Power supply input (+)

For more details about using TE cooled detectors see Related Documents.

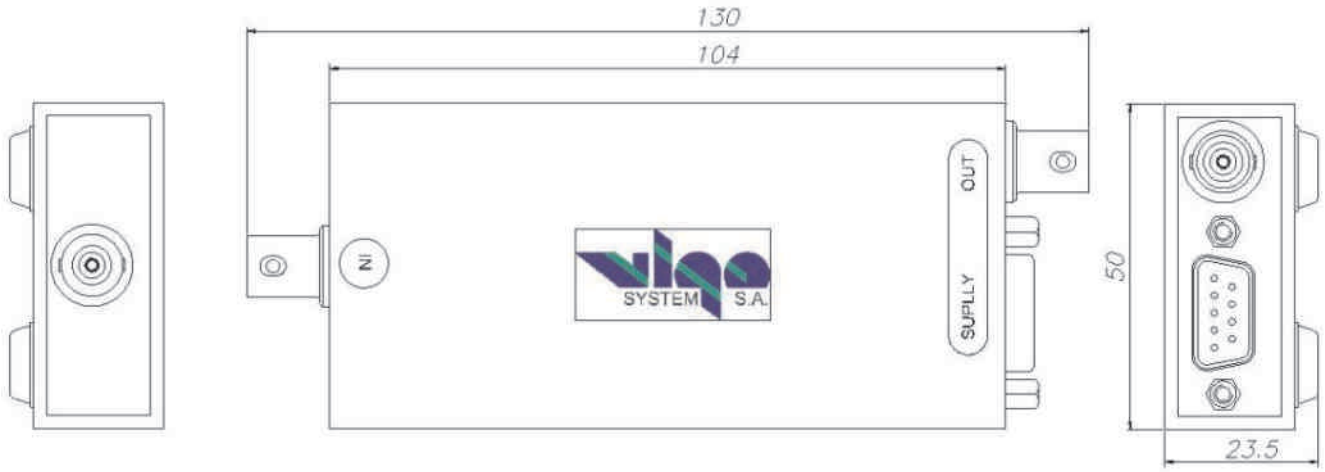
MODULE TYPES

Module Type	Description
VPAC-xxS	Detector Module with AC Coupled Transimpedance Preamplifier
VPDC-xxS	Detector Module with DC Coupled Transimpedance Preamplifier

EXTENDED SYMBOL

xx	Product identifier
0.1	100 kHz
0.3	300 kHz
1	1 MHz
5	5 MHz
10	10 MHz
20	20 MHz
50	50 MHz
100	100 MHz
250	250 MHz

DIMENSIONS



All dimensions in milimeters.

RECOMMENDED ACCESSORIES

Model	Description
PPS-02	Preamplifier Power Supply

HEADQUARTERS
3 Swietlikowa St.,
01-389 Warsaw, POLAND
tel: +48 22 666 01 45
fax: +48 22 666 01 59
http://www.vigo.com.pl

SALES OFFICE
11a Wyki St.,
01-318 Warsaw, POLAND
tel: +48 22 666 14 10
fax: +48 22 665 21 55
info@vigo.com.pl

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