



Features

- Micro size
- High signal-to-noise ratio
- Bandwidth up to 200 MHz
- Dedicated for operation with uncooled detectors
- Custom configuration upon request
- Additional accessories available

Applications

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

Description

μIP is the transimpedance, AC or DC coupled, micro size preamplifier.

It is available in two options: S – standard with package and O – OEM without package.

μIP is designed for operation with either biased or non-biased uncooled detectors.

Preamplifier Specification

Parameter	Symbol	Unit	Typical Value	Conditions, Remarks
Input Noise Voltage Density	e_n	$\frac{nV}{\sqrt{Hz}}$	0.97 – 8.0 ¹⁾	$f_o = 10 \text{ kHz}^2)$
Input Noise Current Density	i_n	$\frac{nV}{\sqrt{Hz}}$	0.02 – 3.5 ¹⁾	$f_o = 10 \text{ kHz}^2)$
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 200M	
Transimpedance	K_i	$\frac{V}{A}$	up to 1×10^5	
Output Impedance	R_{out}	Ω	50	
Output Voltage Swing	V_{out}	V	± 2 ± 1	$f_{hi} \leq 1 \text{ MHz}, R_L = 1 \text{ M}\Omega^3)$ $1 \text{ MHz} < f_{hi} \leq 200 \text{ MHz}, R_L = 50 \Omega^3)$
Output Voltage Offset	V_{off}	mV	max $\pm 20^4)$	
Power Supply Voltage	V_{sup}	V	± 9	
Power Supply Current	I_{sup}	mA	max ± 50	no detector biasing
Dimensions	-	mmxmm	$\emptyset 15 \times 34.7$	diameter x length

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

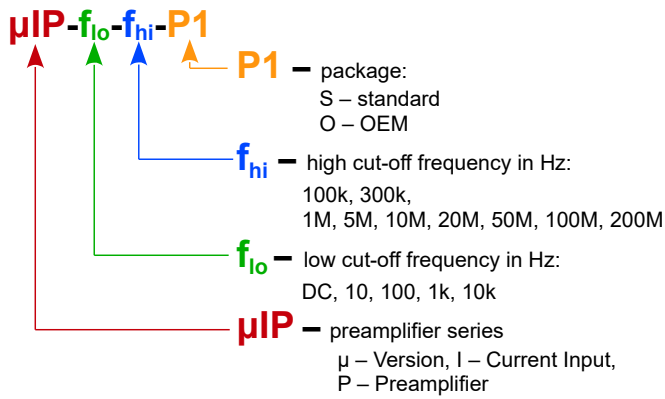
¹⁾ The preamplifier noise may significantly reduce the system performance in some configurations. This happens for large capacitance detectors operating at high frequencies

²⁾ f_o – noise measurement frequency

³⁾ R_L – load resistance

⁴⁾ Measured with equivalent resistor at the input instead of the detector. It's to avoid the environmental thermal radiation's impact

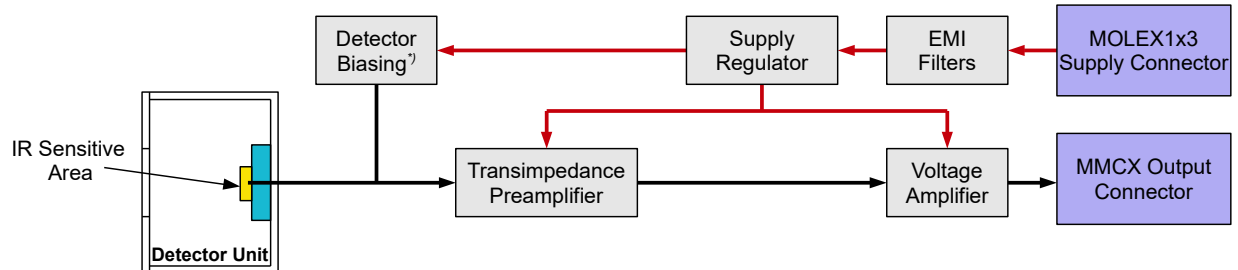
Preamplifier Code Description



The preamplifier can be integrated with following types 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

Schematic Diagram

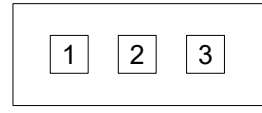


¹⁾ Only for biased detectors

Power Supply Connector

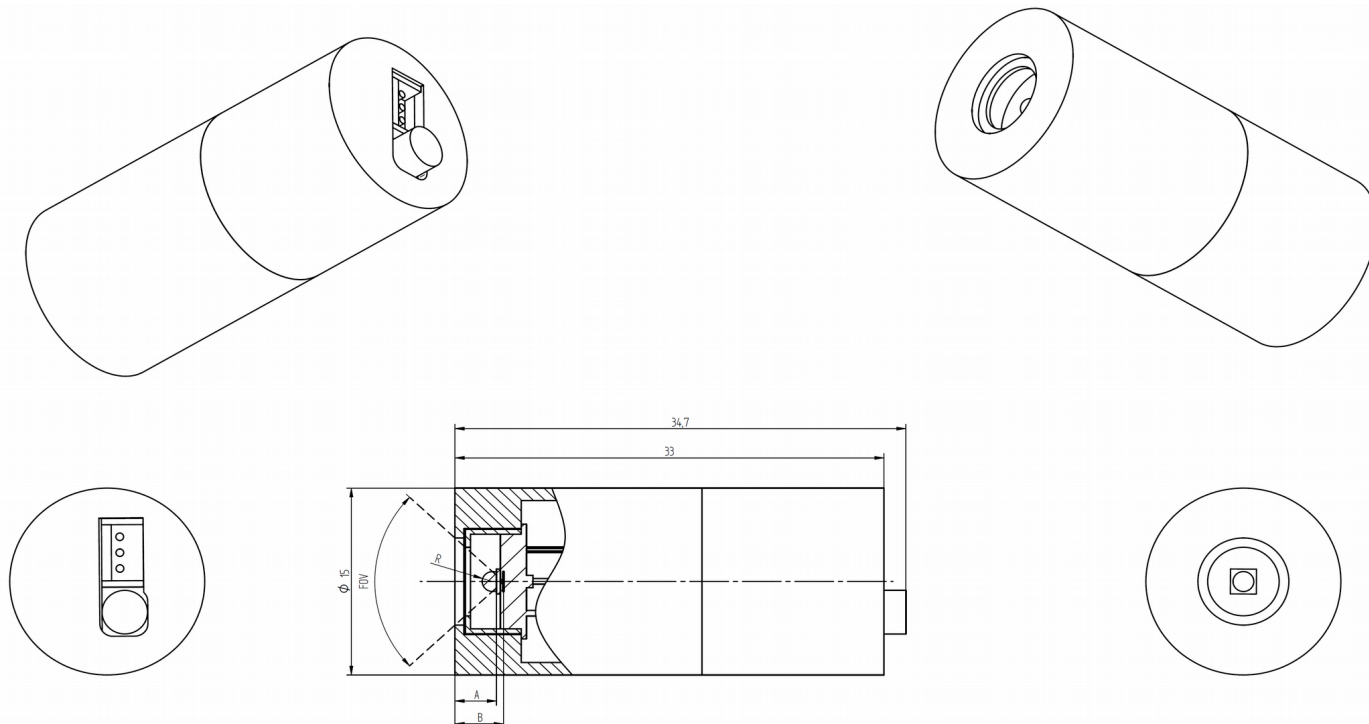
Pin Number	Symbol	Function
1	-V _{sup}	power supply input (-)
2	GND	power ground
3	+V _{sup}	power supply input (+)

MOLEX 1x3 Connector Female

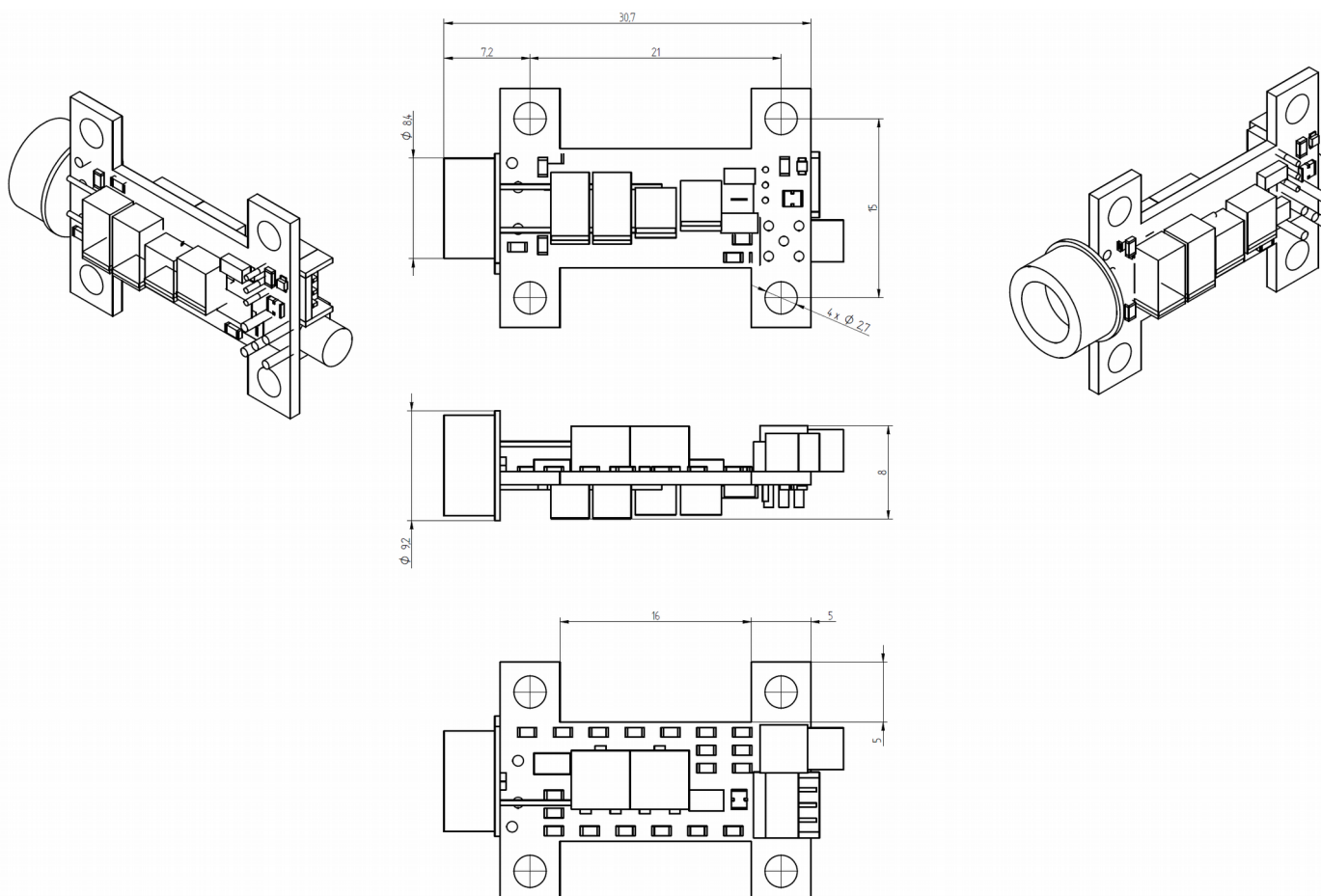


Physical Dimensions [mm]

μIP Standard



μIP OEM



Recommended Accessories

PPS-03	AC Adaptor	MOLEX1x3-DB9	MMCX-BNC	MMCX-SMA
		AVAILABLE SOON		
Pre-amplifier Power Supply	Power Supply Adaptor	Power Supply Cable	Signal Output Cable	Signal Output Cable
DRB-2	MP	PH	MH	
				
Base Mounting System	Mounting Post	Post Holder	Module's Holder	